

JPRS-TEP-89-007  
18 APRIL 1989



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# ***JPRS Report***

# **Epidemiology**

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# Epidemiology

JPRS-TEP-89-007

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18 APRIL 1989

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## CAMEROON

**Breakthrough in Leprosy Treatment Seen**

54000013b Yaounde CAMEROON TRIBUNE  
in English 13 Jan 89 p 8

[Article by Tambi Samuel (for CAMNEWS)]

[Excerpt] The North West Provincial Chief of Service for Preventive Medicines and Rural Health Services, Dr Andy Tembon Chi, has said that with the availability of appropriate drugs now, leprosy which used to take over 10 years to treat may now be treated in a very short time. He was speaking while distributing gifts to some leprosy patients in Bamenda recently.

Dr Tembon Chi said the active lesion or the tubercloid leprosy can now be treated in a period of six months while the inactive lesion or the lepromatous leprosy takes just two years to treat instead of a patients' life span.

Addressing members of the Mezam Leprosy Management committee, medical staff, patients and a cross-section of the public during the distribution of gifts at the ceremony in the CPDM hall in Bamenda, he said that if patients can report their cases in time there could be no deformity as has been the case. He was optimistic that with education and treatment deformity may be limited to only those who have it now.

Dr Tembon said out of 1,275 reported and known cases of leprosy in the North West Province, Mezam has 207. [passage omitted]

## KENYA

**Over 4,000 HIV Cases Confirmed in 1988**

54000007 Nairobi DAILY NATION in English  
10 Feb 89 p 5

[Article by Otula Owuor]

[Text] The number of AIDS cases confirmed in Kenya at the end of last year stood at 4,295, a scientific conference was told yesterday.

Kenya, which in 1984 had only one confirmed case of the killer Acquired Immune Deficiency Syndrome, now ranks 16th in the world according to the number of infections per 100,000 people.

A breakdown of AIDS cases in Kenya shows 1,246 (44.5 per cent) cases in the Coast Province followed by Nairobi with 763 cases (27.2 per cent), Nyanza 390 (14 per cent) and Rift Valley and Western provinces 139 and 138 (about 4.9 per cent).

Eastern Province has 85 cases (3 per cent) and Central Province 37 (1.3 per cent) while the North-Eastern Province has no confirmed cases although screening of blood from the province indicated that there could be 15 cases of people carrying the virus.

The findings were presented by Dr G. Gachihi at the medical scientific conference at the Kenya Medical Research Institute (KEMRI) in Nairobi.

He was discussing the findings of a research conducted by three other scientists, Dr F. N. Mueke, Dr G. Mbugua and Dr L. N. Muthani.

Dr Gachihi said that, out of 118,814 blood units screened up to the end of last year, 2,799 tested positive for AIDS.

The research paper, titled "The current status of AIDS epidemic in Kenya with special emphasis on seroprevalence in selected high risk groups", is the first to provide comprehensive figures or data of the disease within the country.

Acquired Immune Deficiency Syndrome seems more common in urban centres with the highest infestation among prostitutes.

Selected males in Nakuru, Eldoret and Kisumu showed that 4.5 per cent from Nakuru tested positive for the disease, while in Kisumu it was 8.8 and Eldoret 4.34.

Dr Gachihi said the disease was more prevalent among women aged between 16 and 29 while for males it was more common among the age group 30-39. There were also seven cases of children under four years.

Dr M. A. Omari told the participants that a research conducted to determine the presence of three diseases in three Kenyan towns indicated that Busia town had the highest percentage of positive cases of AIDS—24.5 per cent of the 270 people tested.

It was followed by Kisumu which had 9.4 per cent while Eldoret had 6.8 per cent.

## MAURITIUS

**Government Adopts Plan To Fight AIDS**

54000061 Port Louis LE MAURICIEN in French  
3 Mar 89 p 4

[Text] The government has adopted a plan of action in the fight against AIDS. The objectives of the plan are: to prevent transmission of the AIDS virus, to reduce the morbidity and mortality associated with AIDS infections, and to minimize the psychological impact of the HIV infection on individuals and society.

To achieve these objectives, the plan emphasizes flexibility to changing needs, intersectoral cooperation, stepped-up health education, integration into other programs, consolidation of related services, the encouragement of operational research [research on methods for optimal decision-making].

Execution of the plan will require a budget of \$680,366 for the first year and \$1,254,350 for subsequent years until 1992.

In order to explore possible ways of mobilizing resources for increased and continuing support of the plan, a meeting was held 22 February, presided over by the minister of health. The meeting was attended by interested parties, international organizations, representatives of the diplomatic corps, and non-government organizations. The plan was presented and aid was solicited during the meeting.

## NIGERIA

**Meningitis Outbreak Kills 60 in Niger State**  
54000062 Kaduna *NEW NIGERIAN* in English  
9 Mar 89 p 1

[Article by Mever Ayilla]

[Text] As the death toll due to the outbreak of Cerebro-Spinal- Meningitis (CSM) in some parts of Niger State increased from 14 to 60 within one week, the State Governor, Lt-colonel Lawan Gwadabe has appealed to the federal government for an urgent assistance.

Last week 14 people died as a result of the disease in two local government areas of the state alone.

The State Governor abandoned some official engagements on Monday to visit Agaie and Lapai local government areas to conduct an on-the-spot assessment of the disease that has now spread to six local government areas of the state.

The other areas affected are: Gbako, Magama, Mariga and parts of Chanchaga Local Government area.

The governor who was visibly shaken at the spread of the disease during his unscheduled visit made an urgent appeal to the federal government for vaccines and other drugs to contain the killer disease.

He also directed the state Ministry of Health to intensify the vaccination of people in the affected areas and also directed local government councils and district heads to mount intensive publicity campaigns on preventive and curative measures in all the rural areas.

Lt. Colonel Gwadabe urged the people of the state to make provision for adequate ventilation when building houses and to avoid over-crowding.

Meanwhile, mobile vaccination centres have been set up in the affected areas by officials of Niger State Ministry of Health and relevant local health officials.

The *NEW NIGERIAN* observed people trooping to the vicinity of the mobile vaccination centres to be vaccinated.

It was also observed that the 200,000 doses of vaccine made available by the state government would not be enough to vaccinate all those who might turn out for vaccination.

Already, about 100,000 of the vaccines despatched to the affected areas following the outbreak of the disease have almost been exhausted at the time of the governor's visit.

At the Agaie rural health centre alone, five persons were reported to have died while 41 others were treated and discharged.

At Lapai also, five persons were reported to have been treated and discharged while two others were still on admission.

## ZAMBIA

**Leprosy Cases Decrease; 10,139 Reported in 1987**  
54000013a Lusaka *TIMES OF ZAMBIA* in English  
30 Jan 89 p 1

[Text] The incidence of leprosy in Zambia is declining as a result of implementing multiple drug therapy (MDT), leprosy/tuberculosis specialist Dr G.J. Leenbergen has said.

The number of patients dropped by 3,599 between 1984 to 31 December 1987. The prevalence rate dropped from 0.3 percent in 1986 to 0.1 percent by December 1987.

In a statement marking the world leprosy day celebrated at Liteta leprosarium in Kabwe Rural yesterday, Dr Leenbergen said under the MDT, patients were treated with more than one drug to combat resistance.

"In this treatment regimen patients are released from treatment after six months and two years depending on whether a patient is skin smear negative or positive."

The method was in contrast to the old treatment when patients were kept in isolation at leprosarium for many years.

"Today there is no need to isolate the patients because they get treatment anywhere in hospitals, clinics and rural health centres near their villages."

What the patients needed was to go for treatment once a month at their centres.

In 1984 there were 10,738 leprosy cases recorded but this was reduced to 10,139 in 1987.

Zana reports: A senior Party official has appealed to people of Western Province to cooperate with medical personnel in efforts to eliminate tuberculosis and leprosy in the area.

Western Province political secretary, Cde Shadrack Mwimbwa made the appeal at the world leprosy day celebrations in Mongu.

### Numbers of AIDS Cases Discovered in Screening Reported

54004806 Guangzhou NANFANG RIBAO in Chinese  
29 Nov 88 p 3

[Summary] To date, 18 persons have tested AIDS-positive, and three active cases of AIDS have been reported in China. Seven of the 18 infected cases are Chinese citizens, according to the Ministry of Public Health. The results were revealed following serum screening of 67,200 people. Since 1984, AIDS control and prevention rules including the banning of imported blood products and strengthening customs' quarantine have been implemented.

### Improving Living Standards Change Disease Patterns

OW3103110289 Beijing XINHUA in English 0642  
GMT 30 Mar 89

[Text] Economic development and improvement of people's living standards in the past decade have gradually changed the pattern of diseases in China, "CHINA DAILY" reports today.

An eight-year-long survey of diseases among 10 million people in China's 29 provinces and autonomous regions shows that the number of deaths caused by chronic diseases has increased while those caused by infectious diseases has dropped.

The survey was conducted by the Institute of Epidemiology and Microbiology under the Chinese Academy of Preventive Medicine in Beijing.

The paper quotes Zheng Xiwen, an associate professor of epidemiology and director of the institute, as saying that surveillance of mortality in different areas showed that heart disease, cerebrovascular disease and cancer are among the top killers in China, while infectious diseases now rank seventh in the list of causes of death.

As a result, he says, the country, especially the large cities and regions where infectious diseases are better controlled, should now pay more attention to chronic diseases.

But he says the prevention of infectious disease cannot be neglected in China, where the incidence of some common infectious diseases and the deaths they cause are still much higher than in developed countries.

Zheng cites typhoid as an example: "The data collected from 58 surveillance spots covering about 9 million people in 1986 found 972 cases of typhoid, compared with a total number of 500 in the United States." The incidence of measles in China is about 30 times higher than in the United States.

The disease surveillance reports show that most of the infectious diseases occurred among infants, children and youths rather than the elderly, a factor which greatly affected the average life expectancy.

Although chronic diseases are increasing, Zheng says that some chronic diseases, such as liver cancer, nose and throat cancer and some heart diseases could be caused by infectious diseases.

The incidence of respiratory infectious diseases, such as measles, diphtheria and whooping cough, have greatly dropped because of successful immunization in recent years.

Infectious intestinal diseases, however, are increasing because of the lack of effective vaccines against them and because of poor drinking water and environmental conditions.

### Threat of Epidemic Diseases Still Exists

54004810d Beijing RENMIN RIBAO in Chinese  
26 Nov 88 p 3

[Text] Deputy Director of the Society for Public Health and Minister of Public Health Chen Minzhang while speaking today of China's recent enormous progress in eradicating epidemic diseases also reported some worrisome conditions.

Chen Minzhang said, reflecting the China Academy of Preventive Medicine's analytical report on the epidemic situation of 25 official contagious diseases, that although during the period from January to September of this year the nationwide disease incidence of 3.72 million cases is a reduction compared to last year's 4.14 million cases, the incidence of typhoid and paratyphoid, viral hepatitis and enteric contagious diseases, on the contrary, has increased. For example, typhoid and paratyphoid in Zhejiang went from 2,090 cases in 1985 to 3,290 cases in 1986 and 6,290 cases in 1987. This year is still showing an upward trend. The rise in the incidence rate of enteric contagious diseases reflects the fact that many problems still exist with respect to diet, environmental sanitation and personal hygiene. Examples include the well-known outbreak this spring in Shanghai of hepatitis A, the continuous relatively high incidence of bacillary dysentery and the intermittent prevalence of Xinjiang's non-A non-B type hepatitis which are all primarily the result of contaminated water sources.

This summer's prevalent pinkeye, although very quickly brought under control, reached 1.070 million cases in the Beijing, Tianjin, Shanghai, Guangzhou and Hangzhou areas alone and created very large social repercussions and economic losses. This is a reflection of very poor public sanitation conditions and that personal prevention knowledge is very deficient.

Some contagious diseases affecting both people and animals which had been under definite control, such as blood flukes and others are exhibiting a resurgence.

Food poisoning has been a continuing problem for many years. The reasons for this involve the supervision and inspection of food production, packaging, transport, sale and many other links in the chain. This is a composite social problem.

As the application of nuclear technology becomes more extensive the hidden dangers of all types of nuclear contamination should arouse our close attention as soon as possible. Based on reports during the period from January to October the poor care taken with all types of nuclear material has already resulted in incidents of radioactive contamination.

When speaking of the "four pests" situation, Chen Minzhang said that according to the estimates of some experts, China has over 3 billion rats. Each year these rats consume an amount of food equal to 5 to 10 percent of China's overall food production, about equal to China's total annual food imports. Rat-caused damage to young growth in some provinces reaches 20 to 40 percent while in more serious incidences it reaches 80 percent. Planting cannot keep pace with the losses. Epidemic hemorrhagic fever, propagated by rats, increased to the point where it affected 170,000 people in the period 1986-87. In the period from January to September of 1988, the incidence decreased to 28,000 cases, however, if the results in the control of harm done by rats are not consolidated, the incidence rate will again rise.

The Shanghai Municipality has carried out inspections of 1,195 organizations in 8 industries and has discovered that 78.9 percent have suffered damage from cockroach infestation. Virtually every hospital has been affected. The fly and mosquito problem is even more serious.

Chen Minzhang warned people that unless integrated control is adopted with respect to the current worrisome disease situation and the general environmental sanitation which exacerbates the problem, epidemic diseases, endemic diseases and incidents of toxic poisoning will be difficult to control and at any time could erupt into large-scale epidemics. The eradication of disease breeding grounds requires the joint efforts of the entire society. Much effort is required in the information and education of the entire nation concerning hygiene and health in order to increase the personal hygiene and health consciousness of the people and the active participation in the control of environmental safety and health problems upon which everyone together depends for survival.

**Hepatitis A Incidence in Shanghai Discussed**  
54004810c Shanghai JIEFANG RIBAO in Chinese  
30 Nov 88 p 2

[Text] The incidence of hepatitis A is showing a resurgence in Hangzhou. What is the disease situation in Shanghai which is located so close to Hangzhou? This

question has attracted the close attention [of] this city's readers. Therefore, this reporter went to visit the Municipal Sanitation and Disease Prevention Station.

Based on what was discovered, the hepatitis A situation in the Shanghai Municipality is relatively stable. During September of this year, the incidence rate of hepatitis A was 9 percent lower than for the same period last year. The October rate was 16 percent lower than last year's. When the incidence rates for September and October of this year are compared, a 9 percent decrease is apparent. Examining the most recent figures, during the first and last 10 day periods of November there were a total of 426 hepatitis A cases, exactly equal to the number during the same period last year. The director of the Shanghai Municipal Sanitation and Disease Prevention Station's Contagious Disease Department Kang Laiyi said, that although the hepatitis A situation in Shanghai is relatively stable, this is the peak season for incidence of hepatitis A. Dietary and water sanitation must be strengthened to improve the capacity for self-health maintenance. This must not be taken lightly.

**Jiangsu Clams Proven To Carry Hepatitis A Virus**  
54004807 Beijing XINHUA in English  
0842 GMT 4 Jan 89

[Text] Clams from the sea around Qidong County in east China's Jiangsu Province have been proven to carry the Hepatitis A virus, the PEOPLE'S DAILY reported today.

According to the paper, the Nantong city government, which administers the county, has decided to prohibit all catching of clams from the area.

Local authorities have sent supervisors into the area to enforce the clam-fishing ban.

Violators will face a disciplinary sanction or fine, the paper said.

In 1988, tainted shellfish from the county were responsible for an epidemic of Hepatitis A in Shanghai that lasted from late January to mid February.

Most of the victims were young people under the age of 30 and more than half said they had eaten uncooked clams from Qidong.

Last March, health, commercial and fisheries departments from Jiangsu Province organized a team of 27 experts to investigate the situation and collect clam specimens.

Evidence of the Hepatitis A virus in the clams was found by researchers from the Institute of Viruses of the Chinese Academy of Preventive Medical Sciences, the

Nanjing Institute of Military Science, the Ministry of Health's medicine and biological products inspection bureau and epidemic prevention stations in Shanghai and Jiangsu.

### Hepatitis B Research Conducted at Beijing Medical University

54004808 Beijing BEIJING YIKE DAXUE XUEBAO [JOURNAL OF BEIJING MEDICAL UNIVERSITY] in Chinese Vol 20 No 5, Oct 88 pp 394-400

[Article by Feng Baifang [7458 4102 5364] of the Institute of Hepatology, Beijing Medical University]

[Text] This is a report on the laboratory research carried out by the institute on hepatitis B during the last 15 years. The main aspects of the research were:

1) Research on HBV. We successfully purified HBsAg by means of zonal density gradient ultracentrifugation; corresponding hepatitis B core antibody was obtained for immune animals, followed by the establishment of the technique of HBcAg, anti-HBc specific and sensitive determination. Utilizing endogenous DNA polymerase reaction,  $^{32}\text{P}$  HBV DNA probe was made, which, with its specificity, can be used to detect and obtain pg level directly.

2) Research on immunochemistry in which the first lot of hepatitis B vaccine and HBIG was prepared in China.

3) Research on application. Satisfactory results were achieved in the use of vaccines for blocking mother-infant transmission and in the use of prophylaxis for HBV infection among specially susceptible population, such as athletes on national teams.

As outstanding works of scientific research, altogether 20 items have been awarded prizes at national, ministerial, provincial and municipal levels.

**Key words:** HBV HBcAg DNA polymerase reaction hepatitis B vaccine mother-infant transmission

The main responsibility of the Institute of Hepatology, Beijing Medical University, has been laboratory research on hepatitis B. The progress of the program in the past 15 years may be described in the following aspects.

#### 1. The Research on HBV

In 1977, we successfully purified HBsAg by means of zonal density gradient ultracentrifugation. Purified HBcAg was thereby prepared on a large scale from cadaver liver—the referential standard preparation first time provided for the country; corresponding hepatitis B core antibody (anti-HBc) was obtained for immune animals, followed by the establishment of the technique of HBcAg, anti-HBc specific and sensitive determination. On the basis of this technique, HBV and DNA were

extracted from HBsAg positive serum with immunoprecipitation-ultracentrifugation method. By utilizing endogenous DNA polymerase (DNAP) reaction,  $^{32}\text{P}$  HBV DNA probe was made, which, with its specificity, can be used to detect and obtain pg level directly, and, in addition to clinical hybridization, can also be used in the analysis of enzyme incision atlas and observation of electrophoresis. On this basis, a number of HBV active copy indices from adr subtype single subject/share were screened and at the same time HBV DNA was isolated and purified from high positive serum with the same method. Molecular cloning containing intact HBV gene through *B. coli* connected and transformed by P7/R322 plasmid DNA after incision with restriction endonuclease, and it was named P<sup>HBV</sup>29. Eight kinds of restriction endonuclease were used to carry out single and double enzyme dissociation and sepharose electrophoresis. The number and relative position of sites of restriction endonuclease were analyzed. Physical spectrum of HBV-c DNA was drawn out. Relative position of each gene on P<sup>HBV</sup>29 was established. Two sub-clones, "s" and "c" genes of HBV c DNA were cloned at the same time utilizing endonuclease and cohesive terminus sequence, which has laid the foundation for the research on and making of DNA fragment probe in the future. In the process of reorganizing DNA, a modified acid-phenol method for isolating and purifying plasmid DNA in large amount was developed. Density gradient ultracentrifugation of CsCl-ethidium bromide, which was expensive and time-consuming, was thus omitted and the disadvantage of over-thickness of bacterial dissociation solution in direct phenol extraction, which made it difficult to handle or resulted in low yield was also avoided. Its purity and biology could meet the requirement of reorganization of DNA, of the analysis of restriction endonuclease and of producing  $^{32}\text{P}$  HBV DNA probe on a large scale with Nick translation.

We first produced  $^{32}\text{P}$  HBV DNA probe using HBV DNA cloned by ourselves and then established blot hybridization method to perform qualitative and quantitative determination of serum HBV DNA. The result of the study showed that the relationship of examination for DNAP, HBcAg and HBV DNA paralleled to one another, only the latter being more sensitive than DNAP. Result of quantitative determination showed that, in DNAP positive subjects, serum level was 10-400 pg/40 ul. The above-mentioned  $^{32}\text{P}$  HBV DNA probe has been distributed in reagent kits, since 1983, to more than 100 units and organizations in more than 20 provinces and municipalities in China while national training courses have been organized five times to popularize its determination technique. In the 3rd, 4th and 5th national conferences on hepatitis, quite a number of units and organizations made appraisals of their research work on the basis of this reagent and technique and exchanged information, which helped promote the research program on hepatitis B in our country to the level of molecular biology. At present, we are improving the sensitivity of  $^3\text{H}$  HBV DNA probe and duck liver  $^{32}\text{P}$  HBV DNA probe which have already been produced.

The research on isotin probe and DNA fragment probe is under way. By means of the technique of genetic engineering molecular biology, pathogenesis of hepatitis and blocking of chronic transformation or canceration of hepatitis are being studied.

## 2. The Research on Immunochemistry

### A. The Preparation of the First Lot of Hepatitis B Vaccine and HBIG

The earliest HB vaccine was prepared in China by us in 1975 using HBsAg positive serum through ammonium sulfate precipitation, pepsin digestion and devitalization via sephadex G-200 chromatography, the advanced technique of isolation and purification in large amount of molecular biological particles from layers with different specific gravity using zonal density gradient ultracentrifugation has been widely in use abroad. Since 1978, we have reported several times on our successful purification of HBsAg and HBeAg in large quantity. However, the suspension media used in zonal centrifugation are usually CsCl and sucrose and CsCl is rather expensive and short in supply, therefore, popularization of this technique has been limited. For this reason, we used KBr instead of CsCl to purify HBsAg with the advantage of high purification, high yield and low cost. Vaccine was produced after devitalization with 1 percent formalin and adsorption with cobaltous hydroxide. This vaccine was produced by this method for the first time in China and the method was also advanced.

HBIG has higher passive immunization effect against HBV infection, especially for infants of mothers positive of both HBsAg and HBeAg and accidentally exposed grown-ups. If HBIG is given instantly as passive prophylaxis and then vaccine injection as active immunization, satisfactory result can be expected. However, anti-HBs of natural human group is always with lower titer and not suitable for the preparation of HBIG. In cooperation with Sichuan Blood Transfusion Institute, Chinese Academy of Medicine, we used HB vaccine prepared by ourselves to inject blood donors with low titer anti-HBs to elevate the titer quite high within a short period, and then collected the serum only for purification to produce the first lot of HBIG in China which has been in use in various parts of our country with good result.

The success in the preparation of HB vaccine and HBIG has provided an important basis for the prevention of HB in China.

### B. The Establishment of Specific and Sensitive Laboratory Technique and Method of Detection

Since we established the 1st generation of HB detection technique in 1972, along with the progress of our research program, we have entered into the 3rd generation of radio-immunity and the 4th generation of molecular biology technique.

Determination of DNAP has a definite significance on the observation of replication of HBV, the differentiation of HBV infection and the screening of drugs treating HB. We have studied the application of specific immunoprecipitation in the determination of DNAP, i.e., to add overdose of anti-HBs to the serum to be determined to form immunocomplex from HBsAg. Anti-HBs including Dane particle precipitation but omitting ultracentrifugation, and then, after processing with pronase and NP-40, DNAP similar to that of the original serum was determined from the complex. It was proved by repetition, specificity and sensitivity tests to coincide fundamentally with the result obtained through ultracentrifugation. We also made further studies on different kinds of filter membrane, the preserving time and condition of serum sample, calculation method of DNAP value and the influence of sample contamination over the result of determination. A number of training courses were organized to popularize this method which is still being used in related research programs concerning disease prevention in the "Seventh 5-Year Plan"—screening drugs treating HB, and studies of the pathogenesis of HB.

PHSAR on HBsAg may possibly be the bridgehead of HBV invasion of hepatic cells, while the specific antibody evoked by this receptor is at present thought to play an important role in the prevention of the infection. We isolated and purified HBsAg from HBsAg serum rich in such carriers. After the formation of peptide through SDS and 2-mercaptoethanol dissociation, oligopeptide chain of PHSAR and HBsAg was incised at the site of methionine. HSA affinity chromatographic column was separated and the conjugated portion (the 2nd peak of which is called P2) was collected. RIA determination proved that there was no PHSAR-HBsAg combination activating constituent in P2. Nevertheless, it was discovered that, after the applications of PHSA coating, if P<sub>2</sub> cover was applied once before adding intact HBsAg, conjugation rate of <sup>125</sup>I-Mc-anti-HBs would increase by 30 percent than that obtained by simple addition of HBsAg. This showed that there is a mutual interaction existing between PHSAR and intact HBsAg which, through an unknown mechanism, increases the capacity of conjugation of HBsAg (containing PHSAR) and PHSA. This point was in conformity with the report of the Japanese authors (Mayumi et al. in 1979) who were of the opinion that there exists a rather complicated mutual interaction between the polypeptide of PHSAR and HBsAg contained in HBsAg of natural condition and that, the antigenicity of each is raised because of the existence of the other. Based on the result of the above-mentioned study, it was suggested that HB vaccine should contain PHSAR and that the vaccine should be estimated with active ratio of HBsAg/PHSAR in the hope of raising the rate of positive transformation of anti-HBs after the 1st vaccine injection and thus omitting the 3rd injection, and, in turn, it would help elucidate the role and biological significance of the receptor in the structure of HBV. This is quite important for the recognition of the pathogenesis of the infection.

and of the arrangement of virus particles and its continuous multiplication within the hepatic cells. At present, the method of determination of PHSA hemagglutination and RIA are established and reagent kits available.

### C. Study on Monoclonal Antibody

After successful cell fusion through immunity by purification of adr subtype antigen, 27 strains of monoclonal antibody hybridoma clone were obtained, of which 26 had stable secretion capacity of antibody and 24 were specific to the "a," "d," "r" subtype determining base on HBsAg. Experimental studies showed that, upon different subtype antigens, these monoclonal antibody specific determining bases were different and there were at least two kinds of determining bases upon adr subtype antigen. Using monoclonal antibody to study, among different subtype antigens, the same or similar antigenicity upon certain subtype determining bases would be helpful to the understanding of the correlation during hereditary development of different subtypes. The subtype determining bases specific monoclonal antibody thus obtained may serve as reagent in subtype analysis. The establishment of common determining base "a" specific hybridoma clone has provided large quantity of monoclonal antibody for immunological reagent.

Authors abroad have studied and obtained monoclonal anti-HBe "a," "b" or anti-HBe "a," "b." They have also proved that, when monoclonal antibody c was used both as coating and label at the same time, there was no count obtained from HBeAg positive serum; this phenomenon could be explained by the fact that in the immunity reaction of double antibody sandwich technique a certain determinant upon HBeAg was competitively conjugated by antibody of homologous coating or label and thereby no count was obtained. In the course of reagent kits preparation with monoclonal anti-HBe "a" and "b" provided by Japan, we discovered that in Chinese HBeAg positive serum there was a new immunological conjugation site in addition to "a" and "b." Analysis reveals that the site has the following characteristics: 1) In the examination of serum with new site upon HBeAg, when b/b reagent was used as adjunct, there was higher count which had not been seen in other countries in the past. 2) That site was weaker than b determinant; in the determination of 100 samples, when P/N was more than 10, the count of a/b group was markedly higher than that of b/b group. 3) That site had cross immunity with b determinant but no obvious cross immunity with a determinant. Whether that site is a subtype of monoclonal anti-HBe b or another new determinant crossed with b and whether has repetitive sequence with the spatial configuration or structure of HBeAg await further study. The preparation of monoclonal antibody of that site and sequential analysis of HBeAg with that site would be quite significant for the study of the nature of that site.

### 3. Research on Application

The work of our unit is conducted to obtain social benefit in close connection with practical clinical needs.

### A. Objective and Program of HB Vaccine Prophylaxis

Since this vaccine is short in supply and that the main route of propagation of HBV in China is through mother-infant transmission, it was first decided to use the vaccine for blocking mother-infant transmission in 1979. Up to now, through continuously feeling the way forward, and according to our experience, when only the vaccine is injected 3 times 20  $\mu$ g at birth, 1 month, 6 months respectively, the protective rate may be around 80 percent. For infants of mothers positive of both HBsAg and HBeAg, repeated combined injections of HBIG and the vaccine give the best result. Observation on 77 infants showed no one HBsAg positive; they were given 0.5 ml/kg of HBIG at birth and 1 ml on the 42nd day and in the 3rd month, and 0.5 ml (20  $\mu$ g) of the vaccine in the 3rd month, 4th month and 6th month respectively. Their positive rate of anti-HBs was over 95 percent and anti-HBs could still be found in most of those infants at the age of 3. It is therefore suggested that, for infants of mothers positive of both HBsAg and HBeAg, it is better to adopt combined injection blocking; and, this has provided the basis for large-scale blocking of mother-infant transmission.

Then we studied prophylaxis for HBV infection among specially susceptible population and worked out a plan for HD injection and to-the-point measures. Prophylaxis measures have been adopted by national physical training teams since 1983. Regardless of frequent competition, relative increase of the chances of traumatic hemorrhagic infection developed in training and the successive enrollment of new athletes, there has not been a single case of newly found HBsAg positive or HB patient transmission of HBV has been basically put under control.

In pre-marital examination, when one party was found to be HBsAg positive, the other party was given HB vaccine injection as prophylaxis. By so doing, not only was the transmission of HBV blocked, family and social problems that might follow were also solved. Therefore, this measure has been widely received. According to the condition in our country and the result of our research, a plan has been suggested for the prophylaxis of different forms of HBV infection endangering human groups in China, first-hand information was collected for application of the vaccine on a large scale in the future.

### B. Supply of Reagent Kits

Whenever a new technique of determination was established, we always prepared reagent kits to accelerate its popularization and to obtain greater social benefit. For example, <sup>125</sup>I HBV DNA probes and HBsAg, Anti-HBs diagnostic blood cells are still widely in use in clinical practice of HB and research program; especially anti-HBs reagent kit, it has played an important role in the observation of the blocking effect of HB vaccine and the

survey of epidemiological diseases. As for the determination of PHSA with RIA and hemagglutination technique and the determination of PreS<sub>2</sub> with EIA, hemagglutination and gold labelling technique, together with their popularization, reagent kits were all supplied to accelerate the popularization of the new techniques.

### C. Solving the Difficult Problems in the Treatment of Hepatitis

We have been doing our best to overcome the difficulties in treating hepatitis to carry out research program, check the results of treatment and to predict prognosis of chronic active hepatitis. We have also joined our efforts to fulfill the tasks assigned by our country—"Sequentialization, standardization and production after medium tests of the determination reagent for virus hepatitis," "The research on the pathogenesis of HB" and "The screening of drugs treating chronic active hepatitis." Along with the progress of our work, new challenges arise to be met and new efforts are made to further our research on HB. In the past 15 years, we have developed 32 items of new laboratory technique one after another as well as specific and more sensitive methods of determination; most of them have been applied in research programs or clinical practice. We have been awarded prizes for 20 items and 22 times for scientific accomplishment, prizes of national, ministerial, provincial and municipal grade.

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### Xinjiang Province Reports Hepatitis 'Under Control'

54004809 Beijing XINHUA in English  
1451 GMT 21 Jan 89

[Text] The government of the Xinjiang Uygur Autonomous Region reported today that it had basically brought under control the non-A, non-B hepatitis which is endemic in its rural areas.

According to an earlier report, the disease, which spreads quickly and causes a high death rate, is prevalent in 16 countries.

It has been rampant in rural and forest areas in south Xinjiang over the past two years.

The regional government has allocated special funds and sent medical teams to fight the disease while taking measures to improve the quality of drinking water and spreading hygiene information.

**Rabies Spread in Zhanjiang, Guangdong Noted**

*54004810b Guangzhou NANFANG RIBAO in Chinese  
30 Nov 88 p 1*

[Text] Recently in the Potou district of the Zhanjiang Municipality rabies has become prevalent. According to statistics, as of 19 November rabies had afflicted 326 people and 12 have died. The Zhanjiang Municipal Government has adopted urgent measures to eradicate rabies in the epidemic areas, and is conscientiously carrying out work to control the incidence and spread of the rabies so as to ensure the lives and safety of the people.

Nansan town in the Potou region of Zhanjiang is a sea island. Here, during the last half of August of this year,

rabies first appeared afflicting humans. Based on statistics, in this town 270 people have been afflicted by rabies and 7 have died. The Zhanjiang Municipal Government has listed the town of Nansan as part of the area affected by the epidemic. The Departments of Public Safety, Animal Husbandry, Public Health, Industry and Commerce have taken urgent action to capture and kill on the spot all dogs within the epidemic area. Transport of dogs from the island is not permitted. For those people who have already contracted rabies complete mobilization has been implemented so that vaccine injections can be administered promptly. At present 5,200 dogs have been exterminated, nearly 95 percent all those raised in the area. In the town of Potou and the Maxie residential district, recently there have been 56 people who have contracted rabies, five of whom have died. Eradication and prevention work is also being urgently implemented in these two areas.

## HONG KONG

### Health Officials Authorize New Laws on AIDS Testing

54004011 SOUTH CHINA MORNING POST  
in English 24 Feb 89 p 12

[Text] A new law authorises health officials to order AIDS tests for any Chinese deemed at risk of contracting the deadly disease and to place all sufferers in quarantine, officials at the Public Health Ministry has said.

Mr Sun Xinhua of the ministry's Disease Prevention Department said major eastern cities, including Beijing, Shanghai and Guangzhou, have already begun sample testing of Chinese whose jobs bring them into contact with foreigners, such as hotel workers and tour guides.

He said authorities might also order testing of people who came into contact with a known AIDS sufferer.

Another official in the same department, Mr Nan Junhua, who helped draft the law, said it gives the Government authority to test all of the country's 1.09 billion people if need be. However, he said widespread testing was not needed because few Chinese were at any risk of being exposed to AIDS—acquired immune deficiency syndrome.

"If any Chinese is found to be an AIDS sufferer, he will be quarantined and will not be allowed to continue working or going to school," Mr Nan said. More than a dozen foreigners found over the last few years to have AIDS or to have been exposed to it have been expelled.

China, which is practically AIDS-free, so far has stressed erecting barriers to the AIDS virus entering the country rather than testing its own people.

However, as China's traditional mores against casual sex have weakened and other sexually transmitted diseases such as gonorrhea have reappeared, some medical experts have pressed for wider AIDS testing.

Only two Chinese are known to have died from AIDS: a man who had visited New York and a hemophiliac boy who was reportedly infected by an imported blood product. Four other Chinese who used imported blood products have tested positive for the virus but have not developed the disease.

China has since banned imports of blood products. Last year, it began requiring Chinese who return after more than a year abroad to be tested for AIDS. Foreigners who came to China for more than a year must also be tested. [Passage omitted]

China's new Infectious Disease Prevention Law takes effect in September. It was approved on Tuesday by the National People's Congress' 135-member Standing Committee, which meets between annual sessions of the full congress.

In addition to AIDS, the law's testing mandate also covers the plague, cholera and 34 other infectious diseases. China previously had only administrative regulations covering infectious disease testing and treatment, Mr Sun said.

Mr Bill Kean, representative of the World Health Organisation (WHO) in Beijing, said WHO was helping train Chinese medical workers in AIDS-test techniques and methods of identifying groups in the population at highest risk of contracting the disease.

He said that in China these groups included prostitutes and hotel employees.

### Statistics 'Hide' Female AIDS Rate

54004012 Hong Kong SOUTH CHINA MORNING POST in English 1 Mar 89 p 3

[Article by Mary Ann Benitez] txt

[Text] The incidence of AIDS among women in Hongkong was probably much more serious than official figures indicated, a Government consultant warned yesterday.

Dr Yeoh Eng-kiong gave the warning after releasing the latest monthly surveillance report on AIDS which showed five new carriers of Human Immune Deficiency virus (HIV) infection and two AIDS patients were detected in January.

This brings the number of HIV carriers in Hongkong to 139 including 19 AIDS patients. Official figures show that only four of these are women.

Dr Yeoh also said that AIDS infection among heterosexuals was increasing in Hongkong, but there may be under-reporting because of the stigma attached to the disease.

There were indications that an increasing number of heterosexual males were being infected after contact with local women, he said.

The five new AIDS carriers are all adult males, three Chinese and two non-Chinese. The two new AIDS patients are both men, one Chinese and one non-Chinese.

Dr Yeoh said sexual transmission continued to be the main cause of AIDS infection in Hongkong despite warnings for people to take precautions.

Of 139 carriers, 57 are either homosexual and bi-sexual men. Twelve are heterosexual men, most of whom said they contacted the virus through local prostitutes and some of whom went to Asian countries for sex holidays.

Dr Yeoh said: "What we see now are more heterosexuals who have only had local contact.

"It means that some women are already infected in Hongkong, otherwise who would these men get the infection unless they are homosexual?"

But he said Government figures showed only four of the carriers were women—two were blood transfusion patients, one an intravenous drug user and another was a bar-girl who died of AIDS in July 1987.

Dr Yeoh said that there could be many more undetected women AIDS carriers who had not come forward for testing, and he felt that the number of prostitutes being screened at the Sexual Transmitted Disease clinics was very small compared with the prostitute population in Hongkong.

He said there was the added danger of heterosexual men carrying AIDS who would infect their wives or regular girlfriends. In turn, the pregnant women could pass on the virus to their unborn babies 50 percent of the time.

He said contact tracing was not required in Hongkong and the infected are only advised to ask their partners to come for testing or for them to take precautions.

## GERMAN DEMOCRATIC REPUBLIC

### Clinic Statistics Show Few Cases of AIDS

23000121: Frankfurt/Main FRANKFURTER  
ALLGEMEINE in German 25 Feb 89 p 10

[Article: "Four Infected with AIDS in the GDR—Two and ½ Million People Tested/Sonnichsen's Information"]

[Text] There are four people living in the GDR who have AIDS. Six of the ten originally afflicted with the illness have died in the meantime. These numbers were provided by the AIDS specialist Niels Sonnichsen, Director of the Dermatology Clinic at the Charite in East Berlin. In addition, 55 people are registered as being infected with the HIV (human immunodeficiency virus), but not yet suffering from AIDS. These are exclusively GDR residents. The number of foreigners residing in the GDR who are AIDS victims or HIV carriers varies. There are currently no cases of AIDS among the foreigners, and the number of foreign HIV carriers corresponds approximately to the number of domestic cases. Sonnichsen does not know of a single case where a foreigner was expelled from the country because of his infection. Of course, each person must show when he enters the country that he has no infectious illnesses. A strong concentration of the infection is indicated around the "capital city," according to Sonnichsen, and some areas such as Cottbus, Karl Marx Stadt, Neubrandenburg, Frankfurt, Oder and Suhl are still completely free of the infection. There has not been an increase in AIDS cases since 1986, and the GDR has the illness "epidemiologically well under control."

This can be traced back to the fact that the first AIDS cases in the GDR were identified relatively late, and so there was time to prepare for it (in the GDR). In the

meantime, AIDS advisory points have appeared throughout the republic, the young are systematically educated in the schools and colleges; and in addition, a commission has been in operation since a Council of Ministers' ruling in 1987. This commission has an effect, so to speak, over all areas of society and can exercise its influence over them, for example, to increase condom production.

To explain why the GDR has relatively few AIDS cases and HIV carriers, Sonnichsen points out few blood products were imported because of hard currency problems, and they were able to begin soon enough with testing of their own blood donations. Besides that, two of the high risk groups, drug addicts and prostitutes, play virtually no role in the GDR. There is still not a single child born infected (with the HIV). The most afflicted people are the homosexual men. But their situation is also different in the GDR than in other countries, where the danger of infection is much higher through the existence of known meeting places and greater mobility.

Sonnichsen agrees that despite the requirement to report (infection) in the GDR, there is an unknown quantity (of carriers). This could not be too high, though, because two and ½ million people have been tested in the meantime. Discrimination against those infected is absolutely ruled out, as the reporting requirement is coupled with anonymity. There have, of course, been cases where infected people have been insulted and it appears that advisory groups have been instructed to find different apartments for them. In the GDR, though, the fight is against AIDS and not against those ill with it. And as long as a vaccine has not been developed, the GDR will pursue treatment with medication to extend and ease the lives of the afflicted. The GDR has developed its own medication, but with the happily low number of patients, it has had little opportunity to test anything new, and so is directed towards international cooperation.

## BAHRAIN

**Viral Throat Infection Afflicting Adults, Children**  
54004525 Manama AKHBAR AL-KHALIJ in English  
9 Mar 89 p 5

[Text] A throat infection is sweeping Bahrain, brought on by the warmer weather, say doctors.

The virus affects adults and children, bringing on a sore throat, cough, fatigue and in some cases a slight fever.

But doctors said it was normal for the time of year and easily treated.

### Patients

'Isa Town health centre was treating up to 21 patients a day for the virus.

The doctor in charge said it is a viral infection common to Bahrain at this time of year.

Dr Vernon Jones, a pediatrician at the International Hospital, said a high percentage of his patients were suffering from the virus.

"The infection appears in cycles and seems to be at the peak of a cycle at the moment. Being very sensitive to antibiotics, it is readily treatable," said Dr Jones.

General practitioner Dr 'Abdallah Kamil said, "We treat from six to nine patients a day. It is a bug brought about by the change in weather. With treatment, the infection should last no longer than three to four days."

Dr Paul Armerding, chief medical officer, said that the American Mission Hospital was treating an increasing number of patients with respiratory infections, but this was normal at this time of year.

## EGYPT

### Official Statistics Allegedly Understate Bilharzia Problem

54004607 Cairo UKTUBAR in Arabic  
5 Feb 89 pp 19-21

[Article by Mustafa 'Ali Mahmud: "Historical Relationship Between Farmer and Bilharzia"]

[Excerpts] [Passage omitted] The Ministry of Health Statistics say that bilharzia is found among no more than 20 percent of Egypt's population:

Al-Fayyum: 12 percent.

Central Egypt: 6.6 percent.

Upper Egypt: 11.2 percent.

Al-Jizah: 6.2 percent.

Medical and field studies have proven that at least 60 percent of Egyptians suffer from bilharzia:

Men: 62 percent.

Women: 60 percent.

Male children: 73 percent.

Female children: 62 percent.

A total of 28 percent of the cancer cases diagnosed are cases of bladder cancer, which results from bilharzia.

A total of 32 percent of the women afflicted with bilharzia suffer from infertility.

At least 17 percent of liver disease is caused by bilharzia.

A total of 50 percent of the farmers and 73 percent of school students suffer from anemia resulting from bilharzia.

A total of 10 percent of bilharzia patients suffer from kidney failure.

A total of 50 percent of the deaths in Egypt's countryside among the 25- to 40-year age group are caused by esophageal varices resulting from bilharzia.

A person's growth rate is reduced by 33 percent in the case of bilharzia accompanied by liver and spleen enlargement and contracted before maturity.

In the first years of life, the presence of bilharzia leads to a higher mortality rate and to a lower degree of comprehension among 3 million students.

Infection with bilharzia affects the insulin cells, destroys the pancreas, and leads to a higher sugar count in the blood.

The Egyptian economy loses 2 billion pounds annually because of bilharzia.

Seventy percent of the patient's productivity is lost as a result of infection with bilharzia and of its complications.

The success rate of the methods used in Egypt to diagnose bilharzia is no more than 14 percent. Meanwhile, 86 percent of the patients go untreated until they show the fatal complications of bilharzia.

A bilharzia patient deposits 90,000 bilharzia eggs in a water ditch daily, totaling 32,850,000 eggs annually.

A total of 81 percent of Egypt's rural population lacks sanitary sewerage and 36 percent lacks a clean water source. [passage omitted]

### Changing Behavior

Dr 'Ali Zayn-al-'Abidin, head of the Theodore Bilharz Institute, stresses that he does not believe in indicators because, according to him, they are misleading, especially when connected with a behavioral problem, as is the case with bilharzia. This problem is firmly tied to man. It begins with man, ends with man, and is tackled by man, meaning that changing human behavior is our means to eliminate bilharzia.

This depends fundamentally on providing sanitary alternatives, not just on just spreading the truth about the nature and dangers of the disease.

Here emerges the role of popular participation in providing the alternatives, embodied in deep water pumps, swimming pools, and women's social clubs.

Dr Zayn-al-'Abidin added: There is no place for comparison between treatment by pills, which is as good a treatment as can be, and treatment with injections, which is as bad as can be.

The patient takes his pills, which have absolutely no side-effects, in one dose. These pills are 60-90 percent effective, depending on the severity of the case.

As for injections, 12 doses have to be taken intravenously day after day. Moreover, injections have serious side effects, beginning with severe vomiting and a spasmodic cough and ending with infectious liver inflammation.

Dr Zayn-al-'Abidin believes that the television commercials give a false sense of reassurance. One commercial shows artist Muhammad Rida saying: "Take 4 pills, feel better and live securely." This, of course, is not true, because the cure rate never reaches 100 percent.

"Living securely," as artist Muhammad Rida says, is tied to avoiding exposure to reinfection because the cure does not immunize the body against infection.

To put it briefly, the farmer is required to undergo periodic tests to make sure that he is not reinfected. He is also required not to urinate in water ditches, else it is as if nothing has been done.

Dr Zayn-al-'Abidin has proposed that a "national antibilharzia day" be established—a day similar to the "international smokeout day." Journalist Salah Muntasir has seconded the proposal. Let this day's slogan be: "Please, stop polluting the water and stop being polluted by it." [passage omitted]

Dr Yasin 'Abd-al-Ghaffar, chairman of the friends of chronic liver diseases association, has said that the new bilharzia drug is more effective than all the previous drugs. Those drugs caused side effects to the patient that were at times more harmful than not using the drugs.

Treatment with injections caused the bilharzia cercariae to interact with some of the body's viruses, causing cirrhosis of the liver, which is considered the most serious problem facing us at the national level.

It suffices to say that 90 percent of Egypt's rural population is afflicted with bleeding of the esophageal varices, which results from this cirrhosis. [passage omitted]

### Nephritic Inflammations

Dr Muhammad Subh, an assistant professor of kidney diseases at al-Mansurah school of medicine and chairman of the kidney failure unit at the kidney and urinary tract disease center, has said that the medical research conducted by the center has proven that infection with bilharzia leads to various nephritic inflammations which end up causing chronic kidney failure.

The national economy loses annually 300 million pounds, spent on treating this failure. Statistics provided by the Egyptian kidney disease association confirm that the kidney failure rate in Egypt amounts to 250 cases per million, whereas the international rate is no more than 70 cases per million at the most.

Dr Subh believes that the treatment of nephritic inflammations is not totally successful and that the complications of the disease prevent kidneys from regaining their normal efficiency. This reaffirms the importance of prevention, which is more important than treatment.

Dr Muhammad Hijazi, a specialist in internal medicine at Dumayrah Central Hospital, Talkha District, demands that the Ministry of Health double the quantity of pills allocated for hospitals and rural units by virtue of the great demand for these pills, especially in the wake of the success of the television awareness campaigns in stimulating appreciation of the danger among the rural population. [passage omitted]

### There Remains One Word

This report does not diminish the importance of the role performed by the Ministry of Health or of the concerted awareness campaigns which are trying to reach the farmer's mind and understanding. It is unimaginable that the concepts inherited by the farmers over thousands of years can be changed in a short period of months or in one year. It is also wrong to calculate the losses and the gains in a national issue, such as the bilharzia issue, over a short period of time. Rather, it is essential that we shed light on the issue and follow up on what develops. It is evident that the bilharzia awareness campaigns have stirred some ideas but have not yet

changed the rural situation. This is not a bad outcome. On the contrary, it is promising that we have begun. What is more important is that we persist. It is the nature of the complex and difficult national issues to require a long-term approach.

## INDIA

### WHO Official on Prevalence of AIDS, Other Diseases

54500077 New Delhi PATRIOT in English  
14 Feb 89 p 5

[Text] The World Health Organisation has estimated that of the 200 million people with Sexually Transmitted Diseases (STD) in the world, 50 million cases are in India, according to Dr I.S. Gilada, secretary, Indian Health Organisation and project coordinator, AIDS clinic, J.J. Hospital, Bombay.

Dr Giladam who is here to attend the 13th national conference of the Indian association for the study of STD, which concluded yesterday, said in his paper that prostitutes were the most prone to such diseases.

Out of 1.83 lakh samples from different high risk groups in the country screened for AIDS antibodies till last December 658 were found positive. Of this 330 were prostitutes, the highest number being from Madras, followed by Bombay.

Factors like medical practice by quacks in 'red light' areas, sexual and economic exploitation, inefficient STD management, inadequate health care for prostitutes and their children and the failure of the national STD control programme had aggravated the situation, he said.

Dr Gilada said various practices like dedicating young girls to the goddess Yellama in the 'Devadasi' system and the myth that STD can be cured by having sex with a young virgin girl had contributed to the exploitation of young girls and also the spread of disease. The youngest incidence of STD he had treated was a four-year-old sexually assaulted by her own father in Bombay, he said.

Dr Gilada said among reasons for organisational failures associated with rehabilitation projects for women were the stigma attached, fear of violence and lack of economic resources, manpower and sustained involvement.

Licensing of prostitutes with a provision for periodical check-ups was one way of controlling the incidence of STD and AIDS, he said and called for stricter laws and better enforcement to combat child prostitution.

Dr Gilada said of 455 prostitutes interviewed over four years, only half had some knowledge of STD and though most of them sought regular medical care they were getting 'injurious' treatment from unqualified persons.

## QATAR

### Potential for Future Locust Threat Analyzed

54004519 Doha AL-RAYAH in Arabic 9 Jan 89 p 3

[By Muhammad al-Sharbini]

[Text] Following the arrival in the country in recent days of a few swarms of locusts, which did not have any great or serious impact, we must ask: "Is the threat of locusts over now, and are we safe from the threat and the hardships they would bring?"

We bring up this question because we hear even now that the threat is still present in many of the countries of the world, and thus it is possible, or probable, that it will reach us once again.

We went to the municipality of Doha looking for answers, and what we found there was a surprise.

We found that the reports coming to the municipality of Doha from the parties involved in locust control indicate that it is likely that the country will be faced with other invasions of the desert locust in the coming months of February, March, April, and May, since last month the locusts which invaded Saudi Arabia from the countries of Central and East Africa laid large quantities of eggs around Jizan, (Qunayfidhah), Mecca, and Medinah. In addition, egg-laying continued without effective control in the regions of the African continent!

International studies anticipate that the locust will continue as a serious pest for several more years, which means that attention must be given to this problem, and that the parties involved with control in this state must cooperate in working to prevent the locusts from harming crop resources.

### Temporary Locust Breeding Grounds

In a meeting with Dr Mustafa 'Abd-al-Sattar, specialist in insect and rodent control in the municipality of Doha, he spoke about how he expected an invasion of Qatar by the desert locusts and why that was certain. He said, "If we take into consideration the fact that the locust invasions do not originate from a single place, then it will be necessary to combat this locust habitat for a long time, since it is probable, what with the change in weather and environmental conditions in the Arabian Gulf region, and the neglect of complete control of the remaining swarms which are now invading them, for such a situation to arise, and temporary breeding grounds for the locust would be formed in our region, where it is possible for spring reproduction to occur in Qatar, from which migrating swarms would emerge in the summer!"

Dr 'Abd-al-Sattar explained that the Food and Agriculture Organization of the United Nations (FAO) has stated that the state of Qatar has been subject to seven invasions by locust swarms during the past 50 years, but

that the attacks had ceased for about 30 years. World predictions have shown that future years will see many locust invasion periods, inasmuch as there would be cycles to some degree, separated by long periods of inactivity.

The insect control specialist said that by analyzing reports of previous invasions of the state of Qatar and the surrounding regions, it becomes clear that the likelihood of being subjected to locust invasions in the form of swarms is certain. The severest impact will be in the coming months of February, March, April and May, and the rate of affliction will be higher in March and May, especially with the dispersal of the farms, the concern for the state's green cover, and the improvement in environmental conditions, so it has come to be appropriate that more precautions be taken in these areas. It is without doubt a threat that needs serious and intensive work to be eliminated and effectively resisted.

He said that the locusts which attacked Doha in the past few days were of the most dangerous kind, economically speaking, since it is clear from examining the locust insects which arrived in Doha that they are in the adult phase that has not attained reproductive age.

He added that with respect to the locust life cycle, we see that it develops from the egg to the nymph, then becomes an adult insect that has not yet attained reproductive age. This cycle takes on the average 127 days, the changes being dependent on the appropriate weather environmental conditions.

He mentioned that it is clear from the locusts which invaded Doha lately that the insects were 2 months old, since their general color was greyish-red. They were also at the beginning of the stage of sexual maturity, since the disappearance of the dark carnation red from the back legs was observed, that being a classification characteristic defining the periods of maturity. In addition, the deposition of the little ones in the eggs within the ovaries of the females was observed. The females can easily be distinguished from the males by the presence of the two dorsal plates of the ovipositor at the end of the abdomen of the female.

#### **Movement from Place to Place**

Dr Mustafa 'Abd-al-Sattar mentioned that an increase in the amount of stored fat in the bodies of the insects was also clear, which means that they had eaten a lot in the places through which they had previously passed. The stored fat can be seen inside the abdominal region when it is opened.

He said that this fat is considered to be one of the factors which determines the insects' capacity for long flight, since it supplies the body with the fuel needed for the insect's activity and flight. The flying locust consumes 14 mg of fat per hour. The increase in fat also indicates a

weakening in the rate of flight, in the sense that the swarm moves slowly from place to place, then remains for a longer period of time in feeding areas.

He said that this phenomenon can be explained on the basis that the final goal of the movement of the swarms is to get to regions of seasonal rain, where they lay eggs and complete their life cycle. As a consequence of seasonal rains falling late in the places to which the swarms are headed, which hinders the completion of development, the collective behavior of the swarms changes, and we see them slowing their movement towards their destinations in the hope that rain will fall. Perhaps the delay in rain in Doha caused a large portion of the locusts to die. Perhaps that would be one of the reasons for the high mortality rate observed among the locusts that recently arrived in Doha.

#### **Controlling the Locust Swarms**

About controlling the locust swarms and being prepared for them, Dr Mustafa 'Abd-al-Sattar said that it is necessary to obtain precise reports at the proper time on the phases, numbers, and movements of the locusts, from all the regions where they might be. It is also essential that attention be given to making improvements in the system of notification and data collection in order that the actual picture of the regions where locusts exist may be given. Attention should also be given to training control workers on how to collect notification reports.

He added that early warning regarding locusts comes through making the arrangements needed to set up control campaigns, as well as developing scientific research on the life of the locust and the factors that affect it, and discovering better ways and materials for eradicating it.

He said that the data that has been obtained from the people of various regions comprises a fundamental mainstay in preparing the final reports on the state of the locust attack; therefore the citizens have to be made aware of certain scientific facts about the locust.

Dr 'Abd-al-Sattar added that the adult locust is considered to be the most difficult phase to control, since the adult insects are found either in fast-flying swarms, or settled at night for feeding, or in scattered groups, which makes control difficult and fragmentary. There is aerial control, using airplanes to spread the pesticides over the swarms, and resorting to it depends on the state of the attack, and how far it extends. It is also used when it is not possible to cover it completely by ground means, or when the attack is in places to where it is difficult to get control means, such as the deserts.

He added that as for ground control, it is used to control swarms flying over low elevations by using small limited spray equipment, even though this method does not have effective results.

He said that with regard to the settled swarms, they can be controlled in the first hours of the dawn and before sunrise, or after sunset, when they have settled on the plants to feed. This method is useful when the temperature has fallen, which prevents the swarms from continuing their migration.

#### **A Large Group of Pesticides**

The insect control specialist in the municipality of Doha added that there are several kinds of pesticides for controlling locusts, and they are either in the form of emulsions or oily solutions, since the body of a locust is covered with a special kind of skin on the outside of which is a thin layer of wax which makes the skin impervious to water, so with the use of oily solutions they can penetrate that layer and cause the required poisoning effect. The most important insecticides used are aldrin, dieldrin (benzene hexachloride), dioxinon, chlordane, dichlorvos, dibrom, malathion, sevin, benzocarb.

He said that in case the country is subjected to invasions from swarms that have reached reproductive age, the places where they settle must be monitored to control the eggs that they lay. That is done by plowing the egg fields or spraying them with pesticides that have a residual effect to kill the nymphs after hatching.

The municipality urges the people themselves to take part in the control programs and to facilitate the work of the chemical control teams; to take the necessary precautions to protect themselves and the surrounding environment from the hazards of the chemicals used; and to inform workers in the field of pest control and owners of home gardens about this approaching threat. For there must be a kind of fear of its destructive impact on plant resources, and all hands must be extended to hold this threat off and resist it, and this will not happen unless all who live on this good earth stand shoulder to shoulder.

**Deficiencies in AIDS Testing System Discussed**  
S4001016 Leningrad LENINGRADSKAYA PRAVDA  
in Russian 17 Nov 88 p 3

[Interview by LENINGRADSKAYA PRAVDA correspondent with Leonid Andreyevich Kozhemyakin, doctor of medical sciences, professor, department head at the Military Medical Academy imeni S. M. Kirov; "Will We Learn Our Lesson?"; first three paragraphs are editorial introduction]

[Text] Shock therapy...That is how specialists tersely characterized the situation that arose after the country's first death from AIDS was made public. It literally opened everyone's eyes, and the shroud of complacency fell. For a long time, we thought it could only happen to "them," but now it turns out that it can happen to "us," too. We were assured that the test for AIDS is very reliable, but that, as it turns out, is not quite so.

In a word, many of our mistakes and mishaps have come to light, and the most important task now is to draw the correct lessons from this. However, that's not even the point, it's much more important to see the problem, the phenomenon behind the individual fact. After all, as a result of all the hue and cry and the orders and organizational conclusions, the number of AIDS tests has doubled. But does a mere increase guarantee that they are free of new errors?

Reflecting on all this with our correspondent is the chairman of the commission appointed by the ispolkom of the Leningrad council for investigating the circumstances of the first death from AIDS in our city, L. A. Kozhemyakin, doctor of medical sciences, professor, and department head at the Military Medical Academy imeni S. M. Kirov.

**Q:** Leonid Andreyevich, let's retrace the steps of the patient into the polyclinic and then the clinic—let's repeat the path that your investigation took.

**A:** The patient Olga Gayevskaya, over a period of seven months, presented to the polyclinic No. 30 of the Petrograd Rayon 23 times, with virtually the same complaints: sore throat, cough, high temperature, stomatitis-like lesions of the mucous membrane of the oral cavity. Twenty-three times is obviously no small number. But let's be honest about it: hundreds of patients come to the polyclinics everyday with signs of catarrh of the upper respiratory tract, with fever, with sore throat. What, are we supposed to suspect all of them of AIDS now?

You say that, in addition to everything else, Gayevskaya had lost a lot of weight; but, as with large women, it wasn't apparent with her. Now, it's another matter that the physicians were supposed to conduct a complete clinical and laboratory examination, as is the custom when an illness has a prolonged course. But they didn't do that, they just kept extending the sick leave. That, in

my view, points to the errors that exist in the treatment work the polyclinic does, and, above all, it dictated the stern punishment that the Main Administration of Health Care handed out to the polyclinic's workers. The head of the polyclinic and the head of the therapy department were relieved of their positions, and it was decided that the district physician and the otolaryngologist should undergo a special recertification.

As for the physicians not being alerted, as they say, to AIDS, it's not so much their fault as it is their misfortune.

**Q:** You mean to say that, in essence, the physicians at any other polyclinic could find themselves in a similar situation, that is, they could "overlook" AIDS?

**A:** I'm sure of it. Because today there's not a single book, not one procedural manual for the diagnosis and treatment of AIDS-related infections. Not only are there no textbooks, there is not even a primer. I'm not talking about memoranda or educational leaflets, which, by the way, also don't exist. I'm talking about elementary training and procedural literature that contains specific and basic information about human immunodeficiency virus (HIV, for short), the features of the development and course of typical forms of AIDS, and methods of diagnosing it.

For example, a general blood test and a determination of the blood levels of erythrocytes, lymphocytes, and thrombocytes are widely done in all the polyclinics. But if a physician were aware that a simultaneous drop in the levels of all three indices were highly characteristic of HIV infections in particular, he would have that "alertness" to AIDS that we spoke about.

**Q:** When on earth can we expect the first "primer"?

**A:** Such a training and procedural handbook is already in press. And it includes material on the history of Gayevskaya's illness. The authors—specialists of the Military Medical Academy imeni S. M. Kirov—tried to use all the information on the clinical picture and methods of diagnosis and treatment of AIDS that is needed for polyclinic and hospital physicians to deal with the problem professionally. We hope that, with the support of the ispolkom of the Leningrad council, such a reference book will be published either as early as the end of this year or early next year.

**Q:** But let's continue with your investigation. From the polyclinic, the patient went to the clinics of two leading Leningrad institutes.

**A:** Yes, at the insistence of the patient (mind you, not of the physicians), she was placed for examination in the clinic of the 1st Leningrad Medical Institute imeni Pavlov, and then in the clinic for profound mycoses of

the State Institute for the Advanced Training of Physicians. The patient's condition got worse every day, but none of the specialists at either clinic did an immunological examination. There wasn't even a mention of a special check for AIDS on the basis of the clinical signs. The form 50 analysis (that's what they call the blood test for antibodies to HIV) at the 1st Leningrad Medical Institute was done mechanically and yielded a negative result. Only in the resuscitation department of the hospital of the Institute for Advanced Training, to which the patient was transferred not long before the tragic end, did they finally begin to suspect the true cause of the illness.

**Q:** What do you mean when you say the investigation was done "mechanically"? Why did it yield a negative result?

**A:** I'll explain. It's mandatory here for blood to be checked for AIDS in foreigners who stay in this country for three months or more, in blood donors, in pregnant women, and in infectious patients. On that ill-fated day, Olga Gayevskaya's blood sample, which had been sent from the 1st Leningrad Medical Institute, was No. 65 on a general list in which all the other patients being checked were women in childbirth from the obstetrics and gynecology clinic. And the testing of the blood for AIDS was being done, as we say, in a "pool" of sera, that is, when the sera of 4-5 patients are mixed together.

This procedure, which has long presumed the possibility of error, is nevertheless officially prescribed in a directive of the USSR Ministry of Health because of the drastic shortage in this country of diagnostic test systems. So the error, you could say, was programmed in, was merely an outgrowth of the circumstances that had come about.

**Q:** But really, we can't continue to tolerate it, especially where there is such an outcome. Realistically, what can we do to prevent such errors?

**A:** The most important thing today, I'm convinced, is accurate medical classification of the tens of thousands of city residents who are referred for examination for AIDS. Distinguishing two differing flows. Into one go risk groups and individuals with clinical signs, that is, individuals with infectious, skin, or venereal diseases, in whom the probability of isolation of HIV is highest. Into the other go donors and pregnant women, in whom the probability of such trouble is, as experience shows us, not just minimal, but microscopic.

After all, the interdepartmental laboratory at the Botkin Hospital, where Gayevskaya's blood was checked, is the most competent and, more than anything else, best equipped laboratory in our city. But now it's terribly overloaded, and if it was doing 2,000 analyses a day before Gayevskaya, now it's doing 4,000. With that kind of volume, errors are practically programmed in.

By way of comparison, let me say that in Boston, in the United States, the AIDS diagnostics laboratory, with twice as many workers, does 200-250 tests a day and, naturally, does not combine several sera in the same slide cavity, but places each serum into four control cavities in two different test systems.

**Q:** But certainly there's no other such laboratory in Boston.

**A:** There are more than twenty of them. We have six, but they differ in how well they're equipped and in the level of competency of their specialists. For that matter, equipment for enzyme immunoassay is desperately scarce. I am firmly convinced that, in addition to the existing laboratories, we need to set up new AIDS diagnostics laboratories at the First Leningrad Medical Institute, the Health and Hygiene Institute, and at the State Institute for the Advanced Training of Physicians. And, based at the interdepartmental laboratory at the Botkin Hospital, create an expert AIDS diagnostics laboratory in which tests will be done only on the basis of clinical signs and in questionable instances when control analyses are needed.

**Q:** But as long as we're concerned primarily with "volume," errors are unavoidable?

**A:** It's not just mere concern for volume that is the problem. A stereotypical way of thinking is operating among infection specialists: test as widely as possible, cover as many as possible, and identify...But before, all it took for a researcher to find any serious infection was a microscope. Here, the process itself of objective diagnosis requires enzyme immunoassay that is incomparably more complex. And special diagnostic testing, that is, detection of antibodies to individual HIV proteins—so-called immunoblotting—requires an even more serious level of testing.

And that's not surprising: the disease itself—acquired immune deficiency syndrome—is much more complex in terms of its essence and in terms its deep, underlying biological features than we imagined not so very long ago. Man has, in effect, encountered a new medical and biological situation.

**Q:** Could you explain, please, exactly what kind of a situation that is?

**A:** I am talking about the appearance of an acquired genetic pathology. The ecology has been violated badly: chemical releases into the environment, changes in radiation and electromagnetic background levels, the harshness of ultraviolet radiation because of depletion of the ozone layer of the atmosphere. And there are now more than five billion of us, and we're actively moving around about the entire planet, exchanging genetic information. All this has raised the sensitivity of our genome and, mainly, of the cells that provide immune defense against carriers of foreign genetic material, including HIV. This

requires in-depth basic research that studies the molecular mechanisms underlying the development of HIV's paralysis of the immune system.

That's why, even with all the importance of health-and-hygiene and moral education of the people and the provision of disposable needles and condoms, it must be just as clearly understood that a constructive, scientific solution to the problem should in no way be reduced to those necessary, but nevertheless private, matters. Scientific research on the problem of AIDS, which represents a unique challenge to modern-day civilization, must be taken to a completely new level.

And in that area, western scientists are working much more vigorously and single-mindedly than we are.

**Q:** But let's return to practical aspects: How is the shortage of diagnostic testing systems going to be compensated for?

**A:** By a decision of the Ministry of Health, the supply to Leningrad will be improved in the near future. The production of domestic diagnostic test kits is growing. In the summer, for example, blood had to be stored in refrigerators while we waited for the next batch of test systems. But I think that in the interest of protecting the health of Leningradians, it would be worth it to approach the major enterprises of the city with the request that monies be set aside for the direct purchase of imported test systems for the special diagnosis of AIDS. Production here of such systems has not yet been set up. And the city needs 50-60 such systems a year, at a total cost of 45,000-50,000 rubles.

**Q:** And then we won't have to run to mixing sera, and the notorious "pools" won't be needed?

**A:** For the time being, it's difficult to avoid them, but heroic efforts are being made in the Leningrad Pasteur Institute to produce a special culture of blood cells that will form the basis of domestic diagnostic test kits. Staff members at our academy, in conjunction with other Leningrad scientists, are proposing a simpler method of taking blood for AIDS testing. The customary procedure calls for taking blood from a vein, and the sample can be stored in a refrigerator no longer than a week. Our method makes it possible to refrain completely from intravenous intervention and to store the samples for up to a month and a half at room temperature. That reduces the number of false positives substantially. Now it depends on the practicing physicians and on widespread implementation.

**Q:** And more about the humdrum of life: the passing of that patient actually brought home to us the threat of the spread of the horrible infection. Why in heavens didn't the police, which knew about the lifestyle of this person within its ward, turn her over quickly to the medical people? When will contact between health care agencies and internal affairs agencies finally be set up?

**A:** As a physician, one thing is clear to me: the need to examine risk groups is not merely top-priority—it's crying out. But this requires the enforcement of certain legal acts, which is within the authority, apparently, of the Ministry of Health and the USSR Ministry of Internal Affairs. As Professor Mann, the director of the World Health Organization program for combatting AIDS, said, as long as prostitutes are illegal, the medical profession can't get to them.

And this legal duality (prostitutes as such exist, but they're outside the law) is clearly helping the spread of the epidemic today. AIDS is just as real for us as it is for the rest of the world, the only difference being that we have to convince ourselves of it. It's time to move from words and slogans to action. Tomorrow will be too late.

#### **Spread of AIDS Outside of High-Risk Groups Discussed**

54001008 Moscow LITERATURNAYA GAZETA  
in Russian No 50-52209 14 Dec 88 p 12

[Article by Oleg Moroz under rubric, "Medicine":  
"AIDS Is in Our Homes"]

[Text] Physicians are tracking the virus... Hospital bedside confession... Why are children suffering?... We talk too much... The disease knows no boundaries... We are all in the risk group... You must not die because of ignorance...

Now this disease has come to us.

We had thought that only exotic breeds of people—homosexuals, drug addicts—contract AIDS. But it turns out that ordinary, well-intentioned Soviet people who cannot be distinguished from anyone else, are exposed to it. They are, more than anything else, promiscuous people (from the word promiscuity, which means "indiscriminate sexual behavior").

Irina L.<sup>1</sup> is 20 years old. She is here, in the hospital, for the second time. She appeared for the first time 6 months ago. It is quite obvious what is wrong with her, she is infected. It is when a person comes for the first time that there are still some doubts.

She lived with a foreign student. But the student did not live with only her. There are two other sisters by misfortune in the hospital with her. They were placed in the same ward with her. They eat at the same table. They are concubines from the same harem.

The virus was discovered in the student when he returned from a vacation. The events that followed are well-known—questions, interrogations. The epidemiologists are like detectives. Their task is to learn who his contacts were. That is how they found Irina.

"What were your feelings when you found out about the positive reaction?"

"I felt awful, of course. What else? I felt sorry for myself."

At present the diagnostic process consists of many stages. First the individual is inspected at home, where he lives. When the diagnosis is positive or questionable he is referred to a larger city, for example, the capital of a republic. Only after that, to Moscow.

All those who are infected, with whom I spoke, had known about AIDS from the moment the virus was detected in them. They read newspapers and watched television. This is perhaps the new thing about this year, 1988. Last year there was no such thing. At that time, although one did hear the term, AIDS, somehow it sounded rather dim and remote.

"Of course I knew about this disease," Irina says. "I had read about it. And he and I had talked a lot about it. Of course it was frightening, because I knew that he was somewhat of a carouser and saw other women."

"Did you not try," I said groping for the right word, "to reform your friend?"

She waved at me. "Oh, it was useless. Particularly since he comes from a country where this disease is encountered very often. And he is not taking it very hard. He says that they do not feel the disease. He has left. He got married there. Like everything is all right."

So that is the way it is, he got infected, he infected others and it is all right.

Now to another matter, which I personally sensed, even a year or two years ago. But I am not the only one, of course. This does not require any special prophetic gift. The people in Irina's office found out about her diagnosis immediately. And this in spite of the fact that a medical diagnosis should be kept secret. Particularly this one. And this is a small town. Everybody knows one another. There is a thirst for news. And this is a headline news—AIDS! In spite of the fact that there is no AIDS as such, just a virus, but it does not matter. And this is such a gift for us, citizens! We shall become as notorious as Moscow.

When Ira [diminutive of Irina] returned to work after her leave, someone else was working at her job. What was she to do? She went to the sanitary and epidemiological station, to the department for control of particularly dangerous infections: "Am I not allowed to work on that job?"

"You can work there," was the answer. Just to make sure they phoned the ministry. And there it was also confirmed that she can stay on the job. The director would listen to nothing: "If you do not quit, I shall issue an order that you are an AIDS virus carrier."

In what sort of a country are we living? Is it a jungle?

Irina is expecting a baby. This I cannot understand. It is one thing when someone who has seen life is infected, who has already had time to commit some sins, as it had been explained at one time. But a baby who has not yet seen the world.

The physicians and I had an argument about this when the door closed behind Irina. The physicians referred to the insurmountable maternal instinct, stating that there is a 50 percent chance that the infant will be born in good health.<sup>2</sup> But what does 50 percent mean? After all, we cannot ask the baby if he wants to play this kind of roulette. And he cannot tell us. How many such unfortunate babies have already been born all over the world?

I remember the enormous centerfold photo in some Western journal: a father suffering from AIDS is lying on a couch and pensively gazing at an infant, who is already carrying the virus, playing on his chest....

"Do your relatives know your diagnosis?"

"Only my mother."

"How did she take it?"

"She is upset, of course."

In most cases, the mothers are the only support, the only ones who keep the secret and carry their own heavy cross without complaint.

When virus carriers leave the clinic they have to sign a statement to the effect that they know they are infected, they must inform public health agencies wherever they are, and that they must not transmit this infection to others.

They are advised to take care of themselves. They should spend little time in the sun, avoid catching colds, avoid being upset, eat better.... No drinking, no smoking.

They say there were three instances in which they managed to cure chronic alcoholics this way. True, the cost was dear—AIDS.

As I conversed with AIDS victims, I kept catching myself thinking that these were not promiscuous cases, about which I have heard from other encounters, conversations and observations outside the hospital. And if even such people catch the virus, what can be said about those actively engaged in casual sex. Their encounter with AIDS is simply a matter of time.

A fellow in a bright-colored jacket is sitting across from me in the subway. He is wearing a home-made button on his chest, with the inscription in English, "Sex instructor. Free lessons."

While I am scrutinizing this text, he intercepts my glance. We look at one another for a few seconds. He is not the least bit embarrassed.

"What is that," I ask, "a decoration or an invitation?"

"Whatever people wish," he answers calmly. "Some see it as a decoration, others as an invitation."

"There are some who do?"

"Yes," he nods.

"In that case, why not have written it in Russian?"

"What for?" he shrugs. "It would prompt unnecessary questions, unnecessary conversations.... Also, English implies some level of sophistication."

Aha, I see. Sometimes you feel like a stranger from some century in the past. Seemingly, everything is familiar—the streets, buildings, people. Yet, it is all different. There is something incomprehensible at each step.

The telephone book of a 20-year-old girl. There are x's next to the names of men with whom she has slept. There are many x's. On each page, from A to Z.

However, it is not only the number of marks that is surprising, but the fact that their meaning is not concealed. On the contrary, it is exposed, just like the "sex-instructor's" button.

My son had shown me this book. The girl had asked him to give it to her girlfriend. And she did not fail to tell even him about the x's, although he had not asked her.

Try to discuss monogamy after this.

"The fact that society ultimately arrived at a monogamous family," states Vadim Valentinovich Pokrovskiy, an AIDS specialist, "perhaps indicates that diseases of this kind existed already in the past. In order to survive people were compelled to resort to monogamy."

Yevgeniya N. is Irina's age. In the latter case, the origin of the virus was obvious. But in this case, nothing is clear. She is married and appears to be in splendid health. She drives a battery-operated truck at a plant. She has a year-old son. She has never been unfaithful to her husband and she is certain her husband has also been faithful (the husband was tested and results were negative). She is a donor. She gave blood twice a year. She has given blood six times. Before the seventh time, she was stopped because of the AIDS virus! Why? From where?

Donors started to be checked only recently. If things had been different, perhaps some suspicions would have appeared earlier....

True, the results of the test made here in Moscow, are not yet known. Yevgeniya only arrived the day before yesterday. So there is nothing left but to say a prayer.

There are false diagnoses sometimes. Particularly those made by local medical institutions (this is why all are sent to Moscow for checks and cross-checks; again Moscow is the hub of the universe). Of course, it is a joy when the verdict is wrong, but with our pathologically loose tongues, failure to keep medical secrets, and group apprehension, it is just as difficult to "wash off" a wrong diagnosis as a correct one. If you have been marked, you will remain marked.

True, it is not so here, as it was in the case of Irina, and the medical personnel were conscientious. And professional. They did not make any phone calls, did not sound the alarm, did not send anything either through the mails or a third party. The woman came from a sanitary and epidemiological station. They spoke to Yevgeniya in a closed room. They told her that there is a suspicion and she needed to be retested.

The husband happened to be at home after working the night shift. She told him everything right away.

Everything was handled in a civilized manner. Everything in a humane way.

AIDS-phobia has appeared, on a par with cancer-phobia. Elderly people, wearing medals, gray-haired come to be tested.... At one time they sinned with someone and now they cannot sleep at night.... Like always in such cases, they immediately search for all the symptoms inherent in the disease. One woman even remembered that she had an affair in 1957 during a festival....

This is when everything is coming out. Who could have suspected that the key would be found to the most, most...the most secret and hidden thing, concealed deep at the bottom. This is when husbands and wives learn about the adultery of their mates.

"I have nothing to confess," says Yevgeniya. "And there is nothing to conceal. My husband has no reasons to distrust me."

At the very first encounter, when the diagnosis has not yet been definitely made, patients are stingy with their answers to the questions of physicians. They say they do not understand how they could get infected. That is the case of Yevgeniya. There was no place to catch the virus. Some sort of mystery. Like the Immaculate Conception. However, there are no mysteries for the physicians. There must have been some relationship that the individual does not wish to discuss. In time, after the diagnosis is confirmed and joking will be out of place,

people will most often break down and tell all, like at confession. But, it happens that the fear to confess the unfaithfulness to a husband or wife is stronger than everything else. Then they blame infection on, for example, a needle. In such cases, like Yevgeniya, it is giving blood. The true source of infection remains in the dark. It is better if an individual, after hearing that they have found the virus in someone he has had a relationship with, comes forward voluntarily for a test, be it anonymous or routine.

Incidentally, needle infection cannot be ruled out.

A tall, broad-shouldered young man comes into the office. Valeriy L. He is an electrical fitter. Twenty-two years old.

He is our first interviewee today. In general, there are more men, than women, with AIDS. They constitute two-thirds among foreigners, but also a majority in our country.

Valeriy has also been here since yesterday. He is also waiting for confirmation of the diagnosis. He too has had positive results twice, in his home town and at the republic center.

Their ward is international: a Pole, Yugoslav, Peruvian, African from the Congo and now a Russian. There is still one unoccupied bed.

There are two "also's": he is also a donor, the virus was discovered when he went to give blood. Two months ago. The sifting starts.

"My blood was good," sighs Valeriy. "They were always glad to take it."

Now they will not take it.

This is similar to Irina's case: the next day the entire town knew that Valeriy had AIDS. Again the medical personnel talked too much. Valeriy's sister works at a hospital. She heard it herself at one of the short staff meetings: "The first case of AIDS has been discovered in our town." Then they identified the surname, name and patronymic of her brother. That is the way it is. No, our laws were not written for stupid people.

"Now I do not know how I can face returning home. After all, the whole town is talking about it."

When the nurse told the mother everything, the mother became ill. They had to call the emergency unit.

The family has lots of acquaintances. They all ask whether it is true.

Unlike other fields, an entire new discipline was invented in medicine, it is called deontology. It deals in detail with the behavior of physicians. Although most rules are clear to a hedgehog without any science, we see that even a science is no guarantee against stupidity.

The advantage of large cities is that everything gets diluted, like in the ocean. Everything dissipates and scatters. No one will point a finger at you. However, just the opposite holds true in the sticks, everything is focused on your forehead, like a sun ray under a magnifying glass.

My conversation with Valeriy then turned to touchy subjects.

"What do you think? Were you exposed?"

"For the time being, I am ruling it out. I just do not see any cause."

However, it is then learned that Valeriy worked abroad for several years. In one of the socialist countries. He lived there with a woman. They have a 3-year-old son. He was there this summer. He plans to marry.

It is ironic that now, when relations with foreigners have barely ceased to become suspicious and condemned in our country, AIDS appears unceremoniously demanding that everything be returned to its former place. Relationships with foreigners are a risk factor. AIDS travels without showing a passport.

Incidentally, there are still not so many cases of AIDS in socialist countries, just like here. The probability of infection is not as great. As soon as the alarm was sounded, Valeriy immediately called his girlfriend and told her everything. She went for a test also. The results are not yet known.

There is another suspicion, which is perhaps better founded; Valeriy had a casual relationship with an unknown woman. She gave him gonorrhea. He could have also become infected with AIDS. This cannot be verified; he does not even know her name. It is like going on a wild-goose chase.

Valeriy had few other contacts. At least that is what he maintains. All of the women had been tested. None was found to be infected. The physicians believe that that unknown woman is the most likely source of infection.

There was the usual distribution of roles in Valeriy's family: his father accuses him of all mortal sins, his mother defends him.

The tragedy of Valeriy's situation is aggravated by yet another circumstance. If his diagnosis is confirmed, he will not be allowed to go the country where his girlfriend lives. The rules preclude this. Although I am not sure whether they are fair or not. The planned marriage will have to be postponed.

Viktoriya Z. VUZ [higher education institution] instructor. One more carrier of the virus. She is older than the others with whom I conversed in these few days; she is 29. Married. Has three children. The picture is also typical: she immediately mentions a possible source of infection, but again, anonymously, so that he cannot be identified. Some actor with whom she had a relationship during a visit to Moscow (she is from another region). How did it happen? Did they find each other on the street? In a bus? In the subway? Hm.... A 30-year-old woman. She is not so attractive that someone would run after her headlong. One runs after young sprites. Then they met at some party? That is more likely. But in this case, there must be some acquaintances who know about the actor, who could find him. After all, this is serious. But she gives no details. A nameless actor, and that is all. The nameless actor is simply a symbol. A sign that should tell the physicians that infection was quite possible, that there was no mystery as in the case of the woman who worked as a power-truck driver. For the time being, this is a nameless actor, and we shall see what happens next. We shall see whether the infection is confirmed. After all, it may not be (God willing). If this happens then there is nothing to worry about. Let secrets remain secret.

Oh-oh! There is really very little chance that the diagnosis will not be confirmed. After all, this is already the third checkpoint. The answer was "yes" at the first two.

The physician's trained eye determines that it appears this woman is leading a turbulent life in secret from her husband. It is what is called recreational sex. This is the most probable. It is also typical that she did not inform her husband about the alarming test and about the suspicion of AIDS. She was referred for the test by a gynecologist, who found something suspicious.

A gynecologist usually suspects venereal disease and refers patients to the dispensary. But at the present time there is also a concurrent test for AIDS.

In Viktoria's case, the acquaintance with the virus was also kept quiet. No one gossiped. Everyone cooperated well. So that according to my statistics, which are sparse thus far, secrets are blurted out in about 50 percent of the cases.

I ask: "Do you have any association with drug addicts?"

"I do not drink or smoke, and I am not into drugs!" Viktoria answers, obviously sticking to a memorized line.

In general, they do not answer questions poorly. They are asked the same thing both in their home town, in the republic center and her, in the All-Union center. True, reporters' questions are somewhat different and have their own direction, but there are also plenty of them. The day after our conversation my interviewees were tormented on television.

"Were you afraid of AIDS?"

"I never thought about it because I did not do anything that could lead to it."

What then? What about this casual, nameless relationship? We all think for some reason, that something extraordinary is required for AIDS. Yet it does not really require that much.

After a few days I phoned the clinic and inquired about the test results. The diagnosis was confirmed in all four people with whom I had talked that day.

There is naivete, that is cynical, but nevertheless it is naivete. It is particularly amusing when such a cynically naive individual teases others for being naive.

The reasoning of 17-year-old Sveta:

"I am amazed at some dames. Their naivete amazes me. You think why do you think they're inviting you to the dacha, fool? Is it to read Andersen's fairy tales? And if you went alone with eight fellows, what did you think would happen, that you would crawl into bed with one of them and that the others would sleep quietly? Nonsense! Who needs such stories!"

There are vacant rooms in the dormitory of one of Moscow's VUZ's, which are reserved in case some foreigners arrive. They rooms are always open. For them not to be left empty, students use them for romantic pleasures, and the local operations detachment has been fighting it for a long time.

Sometimes, raiding some room at an inopportune time, the operations people would catch two or three couples there. The more the merrier....

This is part of something Vadim, an ex-sergeant in the Soviet Army, has told me:

"The last two months before being demobilized were the best time for me in the army. At that time, some broad latched on to us, about 17 years old, and lived in our barracks for two months. True, the authorities found out and we all got it. And that is why I was demobilized with the last group. But what a life we led! The minute reveille sounded she disappeared, so that the "jackals" wouldn't see her. She roved around the military town during the day. But in the evening she would crawl in through a window. We would give her something to eat and—

-then.... Afterwards she would probably go to the next unit. As far as I know, she ran away from home at the age of 16 and ever since has been camping in military towns."

I have no doubt that in our country, as in others, the soil is favorable for AIDS. It is friable and fertilized. All the seeder has to do is pass through and cast seeds. It looks like the seeds have already been cast, but sprouts are not visible everywhere. For the time being, they appear here and there, in thawed patches and under the blazing sun.

In October there was the next case of AIDS that had not been detected in time. This time, it is in a 4-month baby. AIDS was identified only after its death. There was a furor in the newspapers. The mother is a woman of loose morals, according to the press.

The "loose" woman enters the room, somehow backing away from the physician who accompanies her.

"I won't!.... I won't give any interviews! It is enough already that I was called a prostitute in the paper."

"What paper was that? Did you see it for yourself?"

"I don't know which paper.... I was told.... I believe it was in TRUD...."

She is bawling. She is 19 years old. She has the appearance of a little girl. All of her mannerisms are child-like. She has a child-like little face. When you read about someone like her, you might think that's a monster! Up close everything looks different. And you start to feel sorry for everyone, to sympathize with them. Although you do not meet anyone. The most wicked things turn up in the press when you do not see the person....

"Why did they have to say that? Call me a prostitute," Alla continues to sob. "What am I to do now? Leave town? Leave the job, for sure...."

However, she sits down. She turns sideways. She is sobbing as she answers the questions.

When AIDS was confirmed in her dead son, they took blood from her. Of course, they found the virus.

She named 19 of her partners. This was over a period of two years. Apparently, this was far from the total. Only the ones whom she knows. Three of them are foreigners. They are no longer in the Soviet Union.

Ella Sergeyevna Gorbacheva, department chief, scolds her like a mother:

"Nineteen...in two years. What are you thinking of? And this only if you did name all of them.... You could be my daughter.... My daughter is 20 and my son is 24.... Just

consider your situation as a young, attractive woman. Is it normal to have so many partners in such a short time? Think about it in the future!"

"Oh, what do I care about the future, for God's sake! What kind of a future do I have?"

Such a gentle Ukrainian accent:

"No, you must not think that way, you have an interesting future ahead, you know this. What are your plans?"

"What plans can I have?! I have no job, I have no home.... I have nothing. I need to beat it out of town."

"Don't worry, calm down. Reconsider your attitude...."

I ask Ella Sergeyevna:

"Have they found the source of infection?"

"They are searching, searching.... They are checking her entire list. What do you think, who could have infected you?"

"I have no idea.... After the Algerian they took blood from me.... He was leaving, and they took blood from him too.... I think he can be ruled out."

There is a stream of foreigners. Some of them are being tested for AIDS. If the virus is found they will be sent out of the country. But there is time between their arrival and deportation. Quite enough time to leave a memento in our country.

"Some hang around here for 6 months," says Pokrovskiy about such candidates for deportation. "A ticket is obtained for them, but they do not show up...."

"I have named all of the contacts, from the first to last," Alla continues. "I had many young fellows two years ago, when I was going to school. Now they are all in the army. They will also be checked now. They are in good health, I am more than sure. The others too.... But those others.... I really don't know, I was sick already.... I don't know whether I infected them or not. I feel bad about it too."

"Those others" implies her partners after she gave birth. Now it is obvious that she was already infected at that time.

"Why did you abandon the baby?" I ask.

"I did not abandon him...."

The means she gave him up temporarily. What a service: the children's home used as a storage chamber.

"I have had miscarriages.... I did not want this child. It just happened, I had to give birth to him."

That's how people come on this earth. They are not wanted, but they are born. Perhaps it is lucky for them to get AIDS?

The infant became sick at the age of two months. Pneumonia. Then otitis. And he never got well.

Alla is in Moscow for the first time. Her encounter with the capital did not bring her joy.

She is crying again. Ella Sergeyevna comforts her: "It's all right, everything will turn out well, you'll get married, you'll have another baby, and he will not necessarily be infected...."

It is a physician's duty to give comfort.

Then followed a half-joking conversation about some potential bridegroom among local residents who is also a carrier and who had already had time to lay eyes on her in the few days that Alla has been here.

A semblance of interest appears on Alla's face. And a minute later she brightens up completely. The tears dry up. She has forgotten the newspapers, "prostitute," the dead infant.... There are questions about the "bridegroom."

This instantaneous change of mood, from uncontrollable grief to anticipated joy and vice versa happens constantly throughout our conversation. Here she had just spoken of the closeness of death, and already the sorrowful subject is forgotten:

"They told me that there are pills against AIDS. Some sort of products already, in space.... The doctor comforted me, saying that I might be sick for two years, then a drug will be found...."

It is apparent that she sincerely believes in all these pills and space products.

Alla's four-month son is the first infant victim of AIDS in our country.

Will it be long before the next one?

**AIDS Testing Center To Open in Azerbaijan**  
54001005 Baku BAKINSKIY RABOCHIY in Russian  
27 Oct 88 p 4

[Interview by BAKINSKIY RABOCHIY correspondent with Professor Gyulzar Khanum Imamaliyeva, doctor of medical sciences, chairman of the AzSSR Society of Specialists in Infectious Diseases, under the rubric "Our Health": "Against Aids—Together"; passages in bold-face as published]

[Text] No medical man can maintain that all diseases have been discovered and the only thing left for us to do is to treat them together. Alas, medicine is being "replenished" with new problems, and these problems, as a rule, are grievous threats to our health. Drug addiction and AIDS have become the diseases of the last decade.

As USSR Minister of Health Ye. Chazov emphasized in a report at the All-Union Congress of Physicians, 400 laboratories for testing for the AIDS virus have been set up in the country; Soviet test kits have been developed; extensive scientific research is under way; and all blood donors are screened for the presence of the AIDS virus. In order to find out how things are going in regard to protection from AIDS in our republic, a BAKINSKIY RABOCHIY correspondent posed a number of questions to the chairman of the AzSSR Society of Specialists in Infectious Diseases Professor G. Imamaliyeva, a doctor of medical sciences.

**Q:** Gyulzar Khanum, recently a joint conference of AzSSR scientific societies of specialists in infectious diseases, therapists, epidemiologists and dermatologists convened in Baku to address the problem of AIDS and AIDS-associated diseases.

**May we assume that physicians of various specialties in our republic are now beginning to sharpen their focus on AIDS?**

**A:** The first steps were taken even before that. However, the joint expanded conference in which Leningrad specialists took an active part—among them professor A. Rakhmanova, the chief infectious diseases specialist of Leningrad and a member of the Council of Experts on AIDS in the USSR Academy of Medical Sciences—served as a stimulus for us and as guidance for future work. The conference, which, by the way, was attended by many leaders of science—professor A. Nadzharov, F. Abushev, candidate of medical sciences K. Beglyarbekov, docents N. Mirishli and B. Makhmudova, and physicians from all specialties and scientific areas—decided to create an AIDS service in Baku that would involve itself in a creative collaboration with the Scientific-Applications and Educational Association of the AzSSR Ministry of Health's republic Center for Hygiene and Epidemiology, the Leningrad Scientific and Educational Production Association on AIDS and AIDS-associated infections, and the Department of Infectious Diseases of the Azerbaijan State Institute for Advanced Training of Physicians imeni A. Aliyev (AzGIUV).

**Q:** Specifically, how will the AIDS service operate?

**A:** It was decided to open an confidential testing and counseling center at the office of infectious diseases of Polyclinic No 3 in the Oktyabrskiy Rayon for identifying individuals infected with HIV and providing them with subsequent check-ups and hospitalization and for examining individuals who have had contact with them. That polyclinic was selected because the AzGIUV's testing and counseling center is located there. Persons at risk for AIDS will undergo clinical examination here, with testing for the infection markers of the disease. A special questionnaire for patients with a first-time diagnosis and for the individuals who have had contact with them will reveal the degree and form of contact, the sexual history and other possible risk factors. The risk group will be

identified by a combination of criteria, and a two-stage study is planned after the initial examination of this group. My young colleague F. Farzaliyev, candidate of medical sciences and an assistant at the Department of Infectious Diseases of AzGIUV, has been named director of the office.

**Q:** It is clear that everything that is being done in the country and now by us here in the republic is aimed at preventing the spread of AIDS. Is there anyone in our republic who is in the group at risk for AIDS or who is a carrier of the disease?

**A:** Since the first description of AIDS, in 1981, it has been, I would say, a matter of great interest and concern among physicians of all specialties. There are well-grounded assumptions that there are, in Europe, at least 250,000 persons infected with HIV and, in the world, 5-10 million infected individuals. Eighty-one Soviet citizens have been diagnosed as virus carriers, and, in Azerbaijan, one foreigner has been diagnosed as such; he was deported to his country.

These are known cases. But how can we say that these are the only cases. We, regrettably, have encountered fatal diseases many times, and they have included many children of different ages in whom we did not recognize the disease until the end, because they had a diffuse form of the disease. Besides, why not look truth in the eye and admit how many males go to different Soviet cities where, to put it mildly, they have an improper lifestyle? One or two infected persons can very quickly increase the number of AIDS patients!

Our cause should be a common cause. Physicians cannot achieve success by themselves; the Ministry of Internal Affairs must help. Incidentally, Leningrad specialists have excellent experience in working with the Administration of Internal Affairs and with local television.

**Q:** How are tests performed?

**A:** Here there still are, as it is said, weak points. But they are now being eliminated. We send blood sera to the USSR Academy of Medical Sciences Institute of Virology imeni D. Ivanovskiy and to the Department of Infectious Diseases of the Leningrad Institute for the Advanced Training of Physicians for testing for the presence of the HIV antibodies.

**Q:** Is there any hope that anybody will come to the office for a confidential examination?

**A:** Of course. My colleagues and I have more than once heard cautious, veiled inquiries on the subject of checking for AIDS. The office assures confidentiality, and those who hold dear their own health and the health of their relatives, especially that of their future children, will come here. We plan to print the office's telephone number in the press soon.

**Soviet Citizen Imprisoned for Transmitting AIDS**  
54001015a Moscow SOTSIALISTICHESKAYA  
INDUSTRIYA in Russian 21 Dec 88 p 4

[Article by S. Sadoshenko, SOTSIALISTICHESKAYA INDUSTRIYA correspondent: "Justice Against AIDS"; first paragraph is source introduction to article]

[Text] Four years of imprisonment is the sentence the Kakhovka Municipal Court gave to Olga L., who knowingly engaged in the spread of AIDS.

"Olga is 31," says V. Panasovskiy, head of the department of especially dangerous infections of the Kherson Oblast Health and Epidemiological Center. "It was by accident and, alas, too late that they discovered that she has AIDS. While enjoying herself with her boyfriend at a Kakhovka restaurant, she fell off the balcony. In giving her the necessary aid, physicians took a blood sample from her. They found the viruses.

Her illness, without a doubt, is the result of an amoral lifestyle. Olga infected her first husband with syphilis. She divorced, and then she married again, to an African. She went with him to the Congo and, after four years, returned to our country. She was without a husband by then, but she had AIDS, and she continued her "shameless" way of living.

A virus carrier is one who has not yet become ill, but who is capable of spreading the infection. And, when they checked Olga out of the Moscow clinic, the physicians warned: no intercourse! But the woman paid no attention to their words—the number of her partners even increased. Eight of them have been identified, and the others are being sought.

The ukase of the Presidium of the USSR Supreme Soviet, "Measures for Preventing AIDS Virus Infection," calls for punishing individuals who knowingly spread this dangerous disease. The oblast health and epidemiological center brought legal action against her.

Perhaps they were initially too humane toward the woman—they made her merely sign a statement that said she would not leave. They thought it would make think twice. But Olga fled Kakhovka. At that point, the court decided to isolate her from society.

This case, perhaps, will force those who change sexual partners often to ponder the situation.

# Soviet Radio Not Broadcasting WHO Program on AIDS

54001011 Moscow SOVETSKAYA KULTURA

in Russian 29 Nov 88 p 8

[Interview by SOVETSKAYA KULTURA correspondent with V. I. Pokrovskiy, president of the USSR Academy of Medical Sciences; "AIDS Progresses"; sub-head reads "World Health Organization has called upon all countries to hold 'A World Day Against AIDS' on December 1"; first three paragraphs appear in boldface in source]

[Text] Panic is growing in the world: AIDS is advancing swiftly across our planet. Data published by the World Health Organization leaves no doubt that this is the most terrible disease in the history of mankind.

Today, about 120,000 AIDS cases have been recorded across the globe, and carriers of the virus number in the millions.

According to a report by the USSR Ministry of Health, 96 carriers of the virus have been recorded so far in our country.

Answering the questions of SOVETSKAYA KULTURA is the president of the USSR Academy of Medical Sciences, V. I. Pokrovskiy: In fact, 96 is a quite a small number, compared with the millions throughout the world, and would seem to be no particular cause for concern. We can't help but be alarmed by the fact that just a year ago, that number was a fourth of what it is now. And more important, we've already had our first deaths: the Leningradian Olga Gayevskaya and a five-month-old child in Odessa who inherited the virus from his mother. The first alarm signals have sounded. But, unfortunately, our society is, in my view, taking the problems of AIDS quite lightly. Most people are still not sufficiently aware of the imminent threat. And in many instances, local medical people are careless. In Gayevskaya's case, for example, the Leningrad physicians were obviously not equal to the task.

SK: The fact that the Ministry of Health found out about that tragic incident from our news paper says something.

Pokrovskiy: There's a good Russian proverb: "A man won't cross himself until it thunders." Actually, nobody probably thought anything at all about AIDS until the epidemic gathered strength, until there was a tangible threat. So that such an attitude is understandable, but it's just that society is none the better for it. We can hope that the first deaths will alter the psychology of the treating physicians.

But now let's look at the problem from another standpoint. You often hear the opinion that the medical profession must protect the people from AIDS. But why the medical profession? I, for one, am firmly convinced that AIDS is more of a moral disease of society than a

medical disease, and every individual must protect himself. The focus of attention here should be not the identification of virus carriers, but behavioral and moral criteria. There's no need, of course, to expect a return to conservatism, but it's not out of place to recall the moral principles that were taught in the good old days.

But what's happening now? I saw the film that has caused all the uproar, "Malenkaya Vera" [Little Vera], and then I read a simply stunning review. At long last, wrote the author, our art is speaking frankly about the fact that human relations have a physiological basis. This idea, by the way, is already "passee" in the West. There, a movement toward morality is unfolding at breakneck speed, whereas we have finally "matured" to the advocacy of free love! If this sort of "propaganda" grows stronger, the medical profession will be powerless in the face of AIDS.

SK: Valentin Ivanovich, now that we've gotten on the subject of propaganda, tell us, please, what, in your view, is the state of health-education work in terms of fighting against AIDS. I have, in any case, come across no information of any kind on the topic.

Pokrovskiy: You're right. Several popular science brochures have been released, and a short film has been shot, but they're of no real significance. Propaganda must come out regularly and should be calm, thoughtful, and, most important, reliable. And more important yet—informative.

What do I have in mind? Well, for example, the documentary film "Risk Group" came out, and just what do the youth see on the screen? Beautiful, slender, unclothed prostitutes leading a luxurious way of life: a pool, a sauna, tennis... Why, it's like an enticement to young girls: here's where you can have a beautiful life!

Incidentally, our propaganda often makes one serious mistake. It links AIDS primarily with risk groups: prostitutes, drug addicts, homosexuals. But meanwhile, roughly half of our 96 infected individuals don't belong to those groups. Here's some lonely woman, let's say, who enters an intimate relationship with a foreigner with the intention of marrying him. How can you call her a prostitute? So, I want to repeat once again: the propaganda must focus on the fact that anyone can be infected with AIDS.

One important big propaganda event is the declaration of a Day Against AIDS. It opens in Geneva, where the WHO is headquartered. An extensive broadcast of information on the world's radio and television airways is being proposed. But as far as I know, the USSR Gosteleradio for some reason doesn't plan to participate in the direct relay of the event. And that's too bad—Soviet viewers could get a lot of valuable information to reflect on.

**SK:** What routes, in your opinion, should the medical profession take in fighting against AIDS? Does the profession plan to expand the testing for the virus, the studies of it, and the efforts to develop effective agents against it?

**Pokrovskiy:** At this point, mankind is faced with an irrefutable fact: AIDS is a genuine threat to human being, one comparable only with nuclear war. The mechanism of the epidemic has been triggered, and stopping it at this stage is virtually impossible. According to the predictions of American scientists, AIDS will peak in 1991-1992. Which means that in three or four years, they feel, there will be 10-15 million virus carriers and four million AIDS patients, half of whom will die.

According to our calculations, there will be a similar peak in the Soviet Union somewhat later—roughly in 1997—but on a somewhat smaller scale. Nonetheless, the number of infected individuals will no longer be in the dozens, like now, but in the tens of thousands or even hundreds of thousands.

Naturally, the finest minds of the human race have been thrown into the battle against AIDS. Their main task is to create an effective vaccine. But personally, I'm not sure that it's possible in the foreseeable future, if only

because it has to be a preparation with a completely distinctive feature, it has to have a special mechanism of action. But what kind of mechanism of action? This is the riddle of the century, and solving it will mean solving the problem of AIDS.

But until we have that vaccine, the medical profession is powerless. The possibilities of what it can do today are exhausted. What can we do? Examine everyone in the high-risk groups one by one? That's unrealistic. According to preliminary figures, internal affairs agencies have registered only five percent of the prostitutes, homosexuals, and drug addicts. Where and how do we find the rest?

In many cities, we have opened confidential offices where any individual, without giving his name, can be tested for AIDS. It has had a unique effect: some 50-70 individuals a week come in for an examination at the office based at the Second Clinical Infection Hospital in Moscow, for example (the office's telephone number is 176-01-72). If the influx grows—fine, we'll open more offices. The main thing is for people to want to protect themselves against the "plague of the twentieth century." Without that, we won't be able to get the better of AIDS.

## BELGIUM

### Study on Carriers of AIDS Virus Published 54002476 Brussels LE SOIR in French 3 Mar 89 p 4

[Article by Janine Claeys: "AIDS: Carriers of Virus Increasingly the Young"]

[Text] Offhand, the Belgians have nothing to brag about with regard to AIDS, since the number of cases in their tiny land, both among citizens and foreigners, is growing. Nevertheless, on one important point, there is improvement these days: knowledge of the cases, their number, their causes, trends, and comparisons, hence there is a smaller number of AIDS carriers not aware of having the disease.

Positive and negative data jostle each other for attention in the bulletin on "the situation as of 30 December 1988," just compiled by the Public Health Ministry's Institute of Hygiene and Epidemiology. Among the good news is that the 24 Belgian cases associated with blood transfusions all received blood or blood products prior to August 1985, the month in which the screening of all blood donations went into effect. Among the bad news however is that 95 percent die within 2 years following diagnosis of the disease.

The bulletin is divided into two distinct sections, studies with respect to absolute cases of AIDS, and studies on what are termed "reference-laboratory-confirmed seropositives." The total number of seropositives (not having yet reached the "absolute AIDS stage") is 4,013, whereas the persons infected with AIDS and residing in Belgium number "only" 170, it being understood, however, that the number originally "notified" of being infected was 424, of whom 219 have died, and others have left the country.

Of the 424 cases, 198 were Belgians and 226 non-Belgians. Of the latter, 187 were natives of Africa. Its important to note that all the Belgians are not living in Belgium, nor is the inverse true (as published). Age? For Belgian males, the average age is estimated to be 43 years, and for Belgian women 40 years. Except for 2 children aged less than 12, there was no case aged less than 20.

The distribution between men and women speaks for itself. Of the 198 Belgians, 171 are men and 27 are women. This was to be expected, the modes of transmission being different. The accompanying graph [not reproduced, but entire content incorporated in this paragraph] shows that of the 171 men who contracted the disease, 108 were homosexuals, some of these being bisexual; 46 were contaminated through heterosexual contact. Blood transfusions, with 10 cases, ranked third among the modes of contamination for men; drug addiction accounted for 1 case; 1 case was a hemophiliac; and in 5 cases, the mode of transmission was unknown.

Of the 27 women, 14 were infected through blood transfusions; 9 through heterosexual contact; 2 were homosexuals and had had contacts with drug addicts. Drug addiction was the sole possible origin of 1 case; and 1 child was infected by her mother.

### Africa Blamed

Among the 46 men who unquestionably contracted the disease through heterosexual contact, 27 had had sexual relations with persons who came from Africa (not necessarily Africans). And of the 9 women who contracted it in the same manner, 7 had had sexual contacts with persons from Africa.

The nation's capital stands out. More than half the patients whose address is Belgium are known live in the Brussels region, the rest living in the Walloons and Flanders, mostly in the large cities.

The distribution between men and women among the seropositives is identical to that among the "diseased," but the average age is lower: 34 years for the men, 29 years for the women. And they include 143 children less than 10 years of age, and 50 youths between 15 and 20 years of age.

The secretary for public health, Roger Delizee, seized the opportunity provided by the publication of this study to remind the public that everyone is entitled to undergo tests outside his or her "regular medical circuit," in the centers of reference that exist for this purpose in the principal university hospitals. These tests are administered free of charge if one presents his or her health insurance card; however, if one prefers total anonymity, the charge is 290 francs.

## DENMARK

### Minister Plans Reducing Information Campaign on AIDS

54002479a Copenhagen BERLINGSKE TIDENDE  
in Danish 16 Mar 89 p 7

[Article by Henrik Qvortrup: "Minister Says No More To Be Gotten from AIDS Campaign"]

[Text] "There is no more to be gotten from the big AIDS campaign. A big effort should be made now to combat widespread diseases such as cancer and heart disease," the minister of health says.

"The priority assigned to the campaigns against AIDS should be lowered in the coming year. Instead, every effort should be made to inform the Danish people regarding the big threats to people's lives such as cancer, heart disease, and accidents."

That is what Health Minister Elsebeth Kock-Petersen, of the Liberal Party (V), thinks. She presented the government's new preventive program for health yesterday, 15 March 1989.

"Big, general campaigns have been run in the AIDS field. I do not believe that there is anything more to be accomplished with regard to raising the level of the information the people have," says Health Minister Elsebeth Kock-Petersen.

"What our interest should now be concentrated on must be, first and foremost, some of the general things—what we are all concerned about," says the health minister.

In the new preventive plan, the government emphasizes that people should "concern themselves with that which is good" if they are to be convinced that drinking and eating less, exercising more, and altogether changing their lifestyles is good for them.

"This must not go the length of becoming a fanatical message. We must avoid finger-pointing and redemptive ardor because, if we do those things, people in general will not pay attention," Elsebeth Kock-Petersen says.

She asserts that the success of the health plan cannot be measured by the "number of reports and pamphlets" issued.

The Health Minister expects that it will be possible to carry out the plan without having it cost a great deal more.

"To the extent that it costs more, we will just have to change our priorities. But the fact that preventive work costs money is not the whole story. Over the long term, we will also be able to save money when the effort becomes successful," the minister says.

#### **Expert Calculates AIDS Danger From Blood Transfusions**

54002479c Copenhagen *BERLINGSKE TIDENDE*  
in Danish 11 Mar 89 p 2

[Article by Annette Hagerup: "AIDS Death from Blood Transfusion Blood"]

[Text] With the current spread of infection the AIDS disease is experiencing in Denmark, we must expect, on the average, that one person is in danger of being infected with AIDS by screened donor blood once every other year.

That is what Chief Physician Lars Mathiesen of the Medical Department for Infectious Diseases of the Hvidovre Hospital said in commenting on the fact that it appears that for the first time a Dane has died from AIDS contracted from screened donor blood.

The patient—an elderly woman—received a blood transfusion at the beginning of 1987. The blood was screened for HIV antibodies, but the woman nevertheless developed AIDS symptoms during 1987. The final diagnosis was made in 1988, and the woman has since died of AIDS.

#### **Survey Tests Attitudes Regarding Condoms, AIDS** 54002479b Copenhagen *BERLINGSKE TIDENDE* in Danish 16 Mar 89 p 6

[Article: "Condom Test"]

[Text] One hundred twenty-five couples—both homosexual and heterosexual—in Funen give top rating to condoms in a survey performed by AIDS-Info in Odense in cooperation with the Institute for Social Medicine at the University of Odense. The results of the survey show that condoms give a very high degree of assurance against unwanted pregnancy and AIDS infection, the manager of AIDS-Info in Odense, Poul Madsen, said on Tuesday, 14 March 1989, on Radio Fyn.

#### **Continuing Deaths From Meningitis; Vaccine Expected Soon**

54002479d Copenhagen *BERLINGSKE TIDENDE*  
in Danish 14 Mar 89 p 4

[Article by Flemming Steen Pedersen: "First Vaccine in a Year"]

[Text] "In a year, it will probably be possible to produce a vaccine that can combat the special and very aggressive Group-B meningococcus bacteria that has caused a large number of cases of meningitis in North Zealand in recent months", chief physician Tove Ronne of the State Serum Institute says.

Up to the present, close to 20 cases of meningitis have been observed in Frederiksborg County this year, and four of those patients have died. The majority of them have been attacked by the so-called Group-B meningitis, for which no effective vaccine exists.

In contrast with the bactericidal medicine, rifampicin, which has just been given to approximately 500 or 600 students in the hard-hit Alholmskole in Hillerød, an actual vaccine will make people immune to the disease for a number of years. Rifampicin quickly removes the disease-causing bacteria, but it provides no guarantee that one may not be attacked by meningococcus bacteria again a few weeks later.

Tove Ronne says that research workers in the United States, and especially in the Netherlands, are well on their way to explaining what substances bacteria consist of. Among other things, that is happening in very close cooperation with physicians at the State Serum Institute, who send samples of bacteria from every individual meningitis victim to their colleagues in the Netherlands to use in their research in this field.

"It will be a step forward in the struggle when we get the problem solved. If we had had a Group-B vaccine today, we would not have hesitated to give it to a very large majority of the young people in North Zealand between 12 and 18 or 19 years of age. We had such great success with vaccinating 14,000 young people in the Randers area when a Group-C meningitis was flourishing there a few years ago," Tove Ronne says.

## FEDERAL REPUBLIC OF GERMANY

### Health Ministry Releases AIDS Statistics

LD300315/1989 Hamburg DPA in German  
1203 GMT 30 Mar 89

[Text] According to Federal Health Ministry statistics, 30,351 people throughout the Federal Republic, 21,047 of them men, were registered as HIV-infected between 1 January 1987 and the end of March 1989. Since 1 January 1982, 3,066 people have been registered as having AIDS, of which 1,246 have died already. North Rhine-Westphalia recorded the highest number of AIDS suffers, with 653. In Berlin, 648 were registered, with 426 in Hesse (of these 282 were in Frankfurt) 265 in Hamburg, and 520 in Bavaria (of which 401 were in Munich).

## ITALY

### Health Minister Presents National AIDS Program

54002474a Rome LA REPUBBLICA in Italian  
24 Feb 89 p 7

[Article by Arnaldo D'Amico: "AIDS, the Emergency Front in the Wards"]

[Text] The hospital beds for AIDS cases will be more than doubled by 1992. The number of physicians specializing in the treatment of AIDS will be quadrupled, and there will be five times as many nurses. According to a rather optimistic estimate by the Ministry of Health predicting the end of the expansion of the epidemic in 1991, there will actually be 15,000 patients this year, and 250,000 sero-positive and pre-AIDS cases. Of these, those who wish can occupy the 3,000 beds in apartments available in all Italy. The total cost of the operation will be 4.5 trillion lire.

The Ministry's bill on AIDS (included in the National Health Plan, the part of which concerning cardiovascular diseases was presented last year) will be submitted to the National Health Council today for approval, and right afterwards it will go to the Council of Ministers for examination. The measure was explained yesterday by Under Secretary Maria Pia Garavaglia at the roundtable arranged by Sacred Heart University in Rome on "AIDS and Drugs: What Shall We Do?"

Maria Pia Garavaglia said, "The general philosophy of the plan includes two guidelines, namely the expansion and reorganization of the existing health facilities, and a centralized administrative mechanism. To that end, Donat Cattin intends to get rules approved that will permit the Ministry of Health to set up a direct telephone line to the anti-AIDS facilities, obviating the usual administrative procedure of going through the regions and the USL [Local Health Units]. For example, the plan enables the Ministry to let out the new facilities on contract 'keys in hand.' But the Ministry's franchises would still have to be granted by agreement with the regions wherein the facilities are to be built."

The estimate of the costs and medical requirements of the 3-year plan is based on a prediction of 5,864 cases of AIDS in 1990 and 14,500 in 1992. The treatment will be very demanding: The average stay of an AIDS patient is 80 days a year, the personnel have to be specially trained, and the wards have to be suitably equipped. However, the out-patient and day-hospital facilities will be used primarily for about 240,000 sero-positive and pre-AIDS cases expected in 1992.

The 15,600 beds in 1992 will have to be broken down into 80 percent for hospital accommodations and 20 percent for day hospitals, and 1,200 accommodations in 1990 (3,000 in 1992) for treatment in rooming houses or at home will be added to those.

The expansion of the staff to treat AIDS patients calls for an annual outlay of 46 million lire per physician and 25 million lire per nurse. Medical personnel for AIDS will be increased from the present 891 to 3,400 in 1992. There will be 11,200 nurses instead of the present 2,470 ones. The plan says that 289 billion more lire are allocated for "economic incentives to personnel who provide permanent care of AIDS patients." This means an additional net monthly wage of 500,000 lire.

It says in the plan, "The provisions are based on the assumption of an abatement of the epidemic, now accepted by most of the experts, which would have to be verified from 1990 on. But the catastrophic possibility that the spread of the epidemic will continue unchanged cannot be excluded with absolute certainty. In that case, the investments in personnel and facilities would have to be at least doubled.

Under Secretary Garavaglia explained, "The absence of any kind of ostracism of the patient is the third guideline of the plan. The patient will have to find help not only in the normal hospital facilities but also in the social centers integrated in urban life: The object is to prevent lazarettos from arising. To that end the plan is counting on communities already experienced in aid to drug addicts and on accommodations in apartments in the urban structure. The AIDS patient is no threat to others but needs social contacts perhaps more than other patients."

The importance of human relationships is a subject that was stressed several times in the course of yesterday's meeting. The major role of the family, either in the process of "acceptance" of the patient or in the task of preventing the disease, has been taken up by the reporters: The greatest experts and teachers in the Faculty of Medicine at Sacred Heart devoted the weighty volume "The Family and Health Education" to the family's enormous potential in this field. They are convinced that parent-child relationships are the key to preventing the spread of AIDS and other diseases.

**Latium To Begin AIDS Testing of Newborns**  
S4002474c Rome L'UNITA in Italian 16 Feb 89 p 7

[Report: "Mass Anti-AIDS Testing of Umbilical Cords in Latium"]

[Text] In a few weeks the umbilical cords cut in the delivery rooms of all hospitals of Latium will be screened in order to determine how many sero-positive babies are coming into the world. The examinations will be conducted with a guarantee of the most complete anonymity. The news was announced by Prof Ferdinando Aiuti at the convention organized by the CGIL [Italian General Confederation of Labor] school. If the tests show that there is a low incidence (one sero-positive baby out of every 5,000 or 10,000 born), measures will not be taken. But, if the incidence is high (one sero-positive baby out of every 300, 500, or 1,000 at most), Latium Region might decide to expand the use of compulsory tests—the premarital ones, for example.

Rome is a city where it is very likely that the percentages of newborn sero-positive babies will be very high. The forecast can be easily gathered from the other figures: There are 5,000 certain sero-positive persons in the capital, 70 percent of them men and 30 percent women. These persons are in the age group of 20-34 years, which is the most fertile one, and the risk of transmission for a pregnant sero-positive woman is 25-30 percent.

Other regions are proceeding along the same lines that Latium is, considering that other realities [as published; probably "regions"] have considerable incidences of sero-positive cases, namely Lombardy, Emilia, Piedmont, some area of Tuscany, and perhaps Sardinia.

Aiuti also anticipated the figures from a study of his to be published very soon. According to the international medical literature of the last 5 years, 96 percent of the risk of AIDS infection can be avoided by the use of condoms, which figure raises the threshold of safety again: A few days ago Carlo Perucci, director of the Latium Epidemiological Observatory, had reported the figure of 90 percent in his journal.

**Sero-Positive Children To Attend Nursery School**  
S4002474b Rome L'UNITA in Italian 16 Feb 89 p 7

[Article by Rosanna Lampugnani: "Immunologist Says There Are Over 600 Sero-Positive Children in Italy"]

[Excerpts] [Passage omitted] Dario Missaglia of the National Secretariat of the Trade Union said that the first school must be a place "to deal early with the scholastic integration of handicapped and sero-positive children. Luidi, the CGIL official in charge of problems of the handicapped, stepped in to talk about the former. He stressed the point that children who learn to live with a handicap become better able psychologically to cope with their handicaps when they become a problem in adolescence. [Passage omitted]

All sero-positive children with no other pathologies can be entered in day nurseries and nursery schools, the immunologist Ferdinando Aiuti said. In Italy there are 600 certain sero-positive children, but that figure probably has to be tripled to come near the actual one. But the number of sero-positive small children will diminish proportionally, thanks to more and more widespread prevention among women, and the figures bear out that prediction: In 1986, 5.8 percent of the sero-positives were children, while today 3.5 percent of them are. Moreover, this figure includes all persons who contracted the virus through blood transfusions. Of those who are born sero-positive, there is a considerable percentage who lose their maternal antibodies after the 15th month of life and become sero-negative. In any case, there is no danger in entering these sero-positive children in school. The international medical literature has determined that sick and healthy children who have lived together even without any precautions have never transmitted the disease to each other, except for a single case that occurred 2 years ago in Germany. A child bit his brother for 5 minutes, causing him to shed a copious flow of blood that was the vehicle of the virus.

Aiuti's proposal, then, concerns sero-positive children in school, with precautions but with anonymity maintained. It will be sufficient if the personnel dealing with them wear rubber gloves, use disinfectant, and watch the most unruly children without isolating them. In that way the sero-positive children can also become citizens of the school world.

**PORTUGAL**

**Measles Outbreak 'Twice as Serious' as 1984**  
S4002472 Lisbon EXPRESSO in Portuguese  
11 Feb 89 p 7

[Excerpts] The current outbreak of measles, which Leonor Beleza claims to be nonexistent, is twice as serious as the one that occurred in 1984-85, and has already taken the lives of 12 children, EXPRESSO has learned from hospital units for infectious and contagious diseases and pediatric specialists. The deaths occurred at

the D. Estefania Hospital (five), at Santa Maria (two), at Sao Joao in Porto (two), at Sao Jose (one), at Sao Francisco Xavier (one), and at the parents' residence (one).

The number of children hospitalized, some of whom are in serious condition, currently is 72. [passage omitted]

The epidemic, which is spreading mainly in the run-down neighborhoods surrounding large cities, has been caused by poor living conditions and a flawed vaccination system. These are poverty cases. Nearly all the victims come from low-income families.

The insecure living conditions of those citizens explain the perpetuation of a situation typified by a traditional aversion to preventive medicine. The World Health Organization [WHO] suggests and finances (and the parents' level of understanding advises) for such cases the sending of mobile vaccination teams to these population areas. However, this principle has not been pursued.

#### Epidemic Predicted

The current measles outbreak was predicted 3 years ago in a scientific report written by Joao Carapau, chief of the clinic in this special field at the D. Estefania Hospital. The study, like several others, demonstrated that it was possible to eradicate the disease through vaccination, considered to be effective.

The recommendations were not followed by the health authorities, specifically, the sector responsible for primary health care.

The vaccines were even lacking for some time at certain health centers. [passage omitted]

Most of the cases involve children aged under a year and a half; a fact supporting those who claim that the vaccination should be given at the age of 9 months, and not 15, as is established policy.

The policy is inspired by economic reasons. In this respect, the specialists criticize the economizing implemented by Leonor Belez, pointing out that the Portuguese Government has received financing from the WHO for vaccinations. [passage omitted]

### SWEDEN

#### Researcher Denies AIDS Danger Lessening

54002477 Stockholm DAGENS NYHETER in Swedish  
9 Mar 89 p 3

[Article by Professor Robert Olin: "HIV Danger Not Over"; first paragraph is DAGENS NYHETER introduction]

[Text] People infected with HIV are highly contagious for a few weeks after infection. After that there is a considerable decline in infectiousness and it remains low

or very low during the years that the infected person is free of symptoms. When the symptoms that precede the AIDS stage start to appear—which can take up to 15 years—infectiousness increases again. It is this second wave of HIV infection that is disturbing, says Prof Robert Olin, head of the National Social Welfare Board's AIDS program, in a response to Bengt Borjeson's article on 23 February. He fears this second wave will come in the 1990's.

At the beginning of 1987 Bengt Borjeson, professor of social work, wrote an article in DAGENS NYHETER criticizing the threatening picture of the spread of AIDS that Koch and others had been conveying to politicians and the public for several years. Borjeson was right. HIV has proved to be much less widespread in Sweden than many people believed. Borjeson goes even further in a recent article (DAGENS NYHETER's "Debate" column, 23 February). According to the headline he thinks Sweden will enter the final phase of the HIV epidemic in the 1990's when there will be a decline in the number of people infected with HIV. Does Borjeson have scientific support for his optimistic views? What political, humanitarian and behavioral consequences can such a clear signal that the "danger is over" have?

In my opinion Borjeson has gone too far this time, he has analyzed the available epidemiological data poorly and his article can seriously damage the current and long-term efforts to limit the continued spread of HIV.

AIDS was detected in 1981, its virus, HIV, was found in 1983 and tests became available as late as 1985. Many, probably most of those infected with HIV, developed the fatal AIDS disease, but only after an incubation period lasting several years—from 5 to 15 years. The AIDS stage, which leads to death, lasts around 2 years, but it may be extended thanks to the life-prolonging but not healing drugs that are now being tested and gradually put to use.

It is now generally accepted that there are three ways HIV infection can be transmitted: sexually, via blood and blood products, and from mother to child during pregnancy or in connection with childbirth. Open sores or lesions on the skin and mucous membranes, especially in the sexual region, greatly increase the risk of transmitting infection, as does unprotected anal intercourse.

One of the things indicated by the intensive research on HIV is that infectiousness varies greatly over time. As Figure 1 shows in diagram form, the infected person is probably highly contagious for several weeks right after the infection occurs. After that the infectiousness declines substantially to a low or very low level during the years the infected person is free of symptoms. Infectiousness increases later when the symptoms that precede the AIDS stage start to appear. After that infectiousness is probably also high during the AIDS stage itself. This later period of increased infectiousness can last as long as 1-3 years. As I will explain in more detail later,

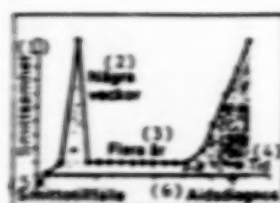
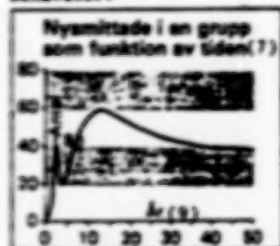


Figure 1 (above) shows how degree of infectiousness varies over time. In figure 2 (below) researcher Mattias Lagergren shows how the contagion can continue in elements of the population, despite reduced risky behaviour.



Key:

1. Infectiousness
2. A few weeks
3. Several years
4. Time
5. Occurrence of infection
6. AIDS diagnosis
7. Newly-infected people in a group as a function of time
8. Number
9. Years

the variation of infectiousness over time is very important in predicting the course of the epidemic in various groups engaging in risky behavior.

When it comes to appraising the epidemic situation, most countries must still refer to the number of reported AIDS cases. But since AIDS develops an average of around 10 years after the initial infection, this form of statistics gives no idea of the current situation but reflects the spread of infection many years earlier.

In Sweden the internationally unique emphasis on voluntary HIV testing has given us a relatively good opportunity to calculate the current incidence of infection. That is the reason why we can now say that Borjeson was right with regard to his statements in 1987: There were 2,000 people known to be infected with HIV in this country at the beginning of 1989 and the number of undetected infected people is estimated at around 1,000.

Borjeson's estimate of this so-called underground figure probably agrees with mine, although he uses an erroneous argument: that "those who get AIDS are almost without exception already known carriers of infection." That is no longer true, roughly one-fourth of the AIDS cases diagnosed in 1988 were previously unknown carriers of infection. The percentage of previously undiagnosed AIDS cases is especially large in the group of homosexual/bisexual men.

But assessing what kind of development we will have in Sweden is more complicated than Borjeson claims. It is surprising that he bases his interpretations of "a relatively simple epidemiological course" solely on the current figures from the National Bacteriological Laboratory (SBL), which show that the number of people infected with HIV has declined gradually each month since 1986, both in the total population and among homosexual/bisexual men and intravenous drug abusers. These statistics, which show the number of reported recently-discovered cases of people infected with HIV—who were infected either recently or earlier—gives us little opportunity to form an opinion about what will happen in the future.

The spread of HIV in the future will be determined by:

- how infectious HIV is
- to what extent those already infected—known and unknown—share risky behavior with uninfected people
- the occurrence of continued risky behavior in various groups and in the sexually active part of the population.

We know the HIV infection routes and that HIV is considerably less contagious than the hepatitis B virus (jaundice). We now think we also know, as I said earlier, that HIV's infectiousness varies sharply over time. This knowledge is of decisive importance for future developments. If we look at Sweden, where the infection entered in 1979-80 among homosexual/bisexual men and in 1983-84 among Stockholm's intravenous drug addicts, we can refer to Figure 1 to get an explanation of why the spread of infection has been low in recent years.

Homosexual/bisexual (HS/BS) men infected each other in the early 1980's, during a period when knowledge of HIV was nonexistent. It is now feared that these infected men will gradually reach the AIDS stage; up to and including January 1989, 20 percent of the 1,050 HS/BS men known to be infected had been diagnosed as having AIDS. From the point of view of infectiousness this means that so far only a minority of infected HS/BS men have reached the stages where they again become contagious. What determines whether a continued spread of infection will take place is the occurrence of risky behavior among those who are infected. As far as one can conclude from the testimony of attending physicians and voluntary organizations, risky behavior is uncommon among men known to be infected.

The thing that is disturbing, both now and for the future, is that there may be a particularly large number of undetected people who are infected among HS/BS men. Here is where a large number of the underground figure can probably be found. We do not know if these men continue to practice risky sexual behavior. If they do there is a risk of a future acceleration of the spread of infection when these men enter the late phase of heightened infectiousness—months or years before AIDS symptoms lead them to seek medical care.

The infected intravenous drug abusers also represent an HIV epidemiological problem for the future. So far the infection has been limited mainly to the Stockholm area, where it spread very rapidly in 1983-86. Sharing equipment is probably the reason why as many as 400 drug addicts were infected during the first brief period of high infectiousness. During 1987-88 there were few cases of new infection. We know that with great certainty, because more than 80 percent of intravenous drug addicts have been tested. But at the end of 1988 the first five AIDS cases were diagnosed and 10-15 percent of the infected intravenous drug addicts have now reached the stage preceding AIDS.

In recent years intravenous drug addicts in Stockholm have only partly reduced their risky behavior—sharing equipment and/or sexual behavior. Some three-fourths of 250 intravenous drug users interviewed at Kronoberg Prison in 1988 shared equipment a few times or more frequently. About three-fourths never used condoms. For reasons like this, I and others have expressed concern that there will be a second wave of infection among drug addicts as they gradually enter the phase of increased infectiousness. There is a risk of an accelerated spread of infection at that time among both intravenous drug addicts and their non-addicted sexual partners. About 50 percent of heroin addicts are now infected. But in the considerably larger group of amphetamine abusers "only" 5 percent are infected. It is in the latter group that a future spread of infection can be feared.

Of course what will happen in this group cannot be predicted with certainty. But available virological data on the variation of HIV's infectiousness over time are a strong reason for taking the hypothesis of a second wave seriously in order to prevent a repetition of what happened in 1983-85 when countermeasures were not adopted.

The ratio of infected heterosexuals is rising. Around half of the 280 people known to be infected are immigrants who were infected in their homeland, the majority in

central Africa. About one-fourth are travelers from Sweden who were infected in southern Europe, North and South America, and other areas.

Because HIV infection has spread quickly in these parts of the world that were affected earlier and has now also reached tourist spots like Bangkok, the risk of infection via casual heterosexual or homosexual contacts abroad has increased. This kind of infection will certainly become an increasingly common problem in the 1990's and beyond.

My brief review of the risk of the continued spread of infection among homosexual/bisexual men, intravenous drug users, immigrants, and people traveling abroad leads to an assessment that differs from Borjeson's. Although we are observing a relatively slow spread of infection today, it should be realized that our time perspective for HIV is still very short. There are several indications that the spread of infection could pick up new speed during and especially after the 1990's.

In Sweden, as in such countries as the United States and England, attempts have been made for several years to use mathematical models to predict what can happen over a longer time period. Such models provide disturbing information: a contagious disease with an incubation period of 10 years, like HIV, can lie and smolder in segments of the population for many years before it flares up again.

A Swedish researcher, Marten Lagergren, licentiate in philosophy, Kronan, Karolinska Institute, is now working on such a model. In Figure 2 he shows that even assuming a decrease in risky behavior, the infection can continue to spread in segments of the population. This occurs slowly and over many years—10 or more—but can then have achieved such proportions that it starts accelerating again. Such mathematical projections clearly illustrate the importance of influencing risky behavior.

Therefore, one must make a long-term and patient effort to prevent the outbreak of new, if limited, epidemics. This is also the plain message in a book recently published by the American National Science Academy: "AIDS. Sexual Behavior and Intravenous Drug Use" (National Academy Press, 1989).

Today we know something about the kinds of risky behavior that can lead to the spread of HIV. But we do not know how many people continue to live dangerously—and we know even less about their motives. Therefore we are still uncertain about which methods can produce changes in behavior. There is a need for Bengt Borjeson and his behavioral science colleagues in these important research questions.

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**DATE FILMED**

27 April 1989